SIXTEENTH ANNUAL REPORT

UNIVERSITY OF MARYLAND

EXTENSION SERVICE

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FOR THE YEAR 1930

Cooperative Extension Work In Agriculture and Home Economics,
Extension Service, University of Maryland, and the
United States Department of Agriculture
Cooperating.

T. B. SYMONS, Director

Distributed in furtherance of acts of Congress of
May 8 and June 30, 1914.

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PAUL A. RAPER	Assistant Poultry Certification.
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† C. S. RICHARDSON	Specialist in Educational Extension.
P. D. SANDERS	Associate Entomologist.
S. B. SHAW	Chief Inspector and Specialist in Marketing.
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† C. E. TEMPLE	Specialist in Pathology.
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* A. F. VIERHELLER	Specialist in Horticulture.
* PAUL W. SMITH	Assistant in Economics and Statistics.

COUNTY DEMONSTRATION AGENTS

County	Name	Headquarters
Allegany	* R. F. McHenry	Cumberland
Allegany	* Milo Downey (Assistant)	Cumberland
Anne Arundel	* S. E. Day	Annapolis
Baltimore	* H. B. Derrick	Towson
Baltimore	* W. H. Carroll (Assistant)	Towson
Calvert	* J. B. Morsell	Prince Frederick
Caroline	* T. D. Holder	Denton
Carroll	* L. C. Burns	Westminster
Cecil	* J. Z. Miller	Elkton
Charles	* P. D. Brown	La Plata
Dorchester	* W. R. McKnight	Cambridge
Frederick	* H. R. Shoemaker	Frederick
Garrett	* J. H. Carter	Oakland
Harford	* H. M. Carroll	Bel Air
Harford	* W. H. Evans (Assistant)	Bel Air
Howard	* J. W. Magruder	Ellicott City
Kent	* J. D. McVean	Chestertown
Kent	* E. W. King (Assistant)	Chestertown
Montgomery	* O. W. Anderson	Rockville

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FOR THE

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(Continued on Third Cover Page)

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UNIVERSITY OF MARYLAND

EXTENSION SERVICE

FOR THE

YEAR 1930

LETTERS OF TRANSMITTAL

Dr. R. A. PEARSON,

President, University of Maryland:

I have the honor to submit herewith the Sixteenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, for the calendar year 1930, together with a financial report for the fiscal year ending June 30, 1930.

Respectfully submitted,

THOMAS B. SYMONS,

January 1, 1931. *Director, Extension Service.*

HON. S. M. SHOEMAKER,

Chairman, Board of Regents:

In accordance with the requirements of the Act of Congress, approved May 8, 1914, and known as the Smith-Lever Act, I have the honor to transmit herewith, for submission to the Governor of the State, the Sixteenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, for the calendar year 1930, together with a financial report for the fiscal year ending June 30, 1930.

Respectfully submitted,

R. A. PEARSON,

January 1, 1931. *President.*

TO HIS EXCELLENCY ALBERT C. RITCHIE,

Governor of Maryland:

I have the honor to transmit herewith the Sixteenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, submitted to me through the President of the University.

Respectfully submitted,

S. M. SHOEMAKER,

January 1, 1931. *Chairman, Board of Regents.*

SIXTEENTH ANNUAL REPORT

OF THE

UNIVERSITY OF MARYLAND

EXTENSION SERVICE

FOR THE YEAR 1930

By THOMAS B. SYMONS, *Director*

Introduction

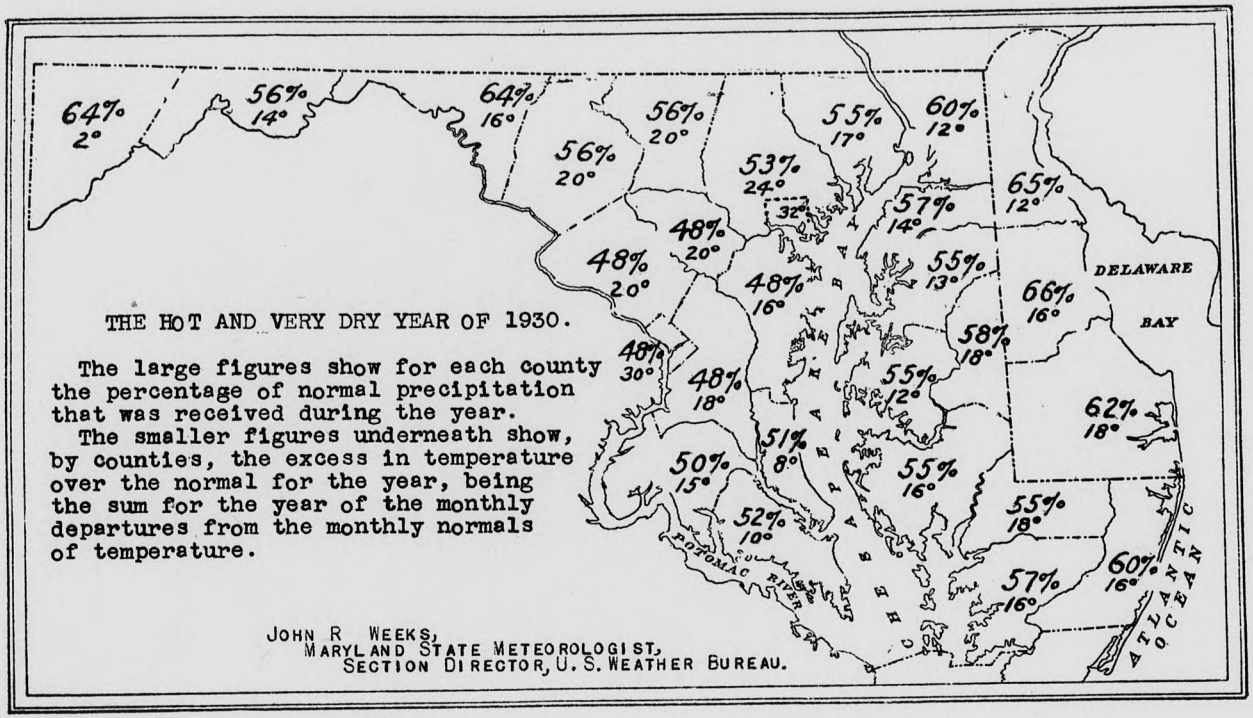
MARYLAND AGRICULTURE has experienced extremely unfavorable conditions during 1930. A drought, which surpassed all previous records for severity, duration, and extent of territory included, together with low prices for most farm products, served to reduce income from the farms of the State to a very low level, compared with normal years. The year 1930 may well be, and probably will be remembered as "the year of the big drought."

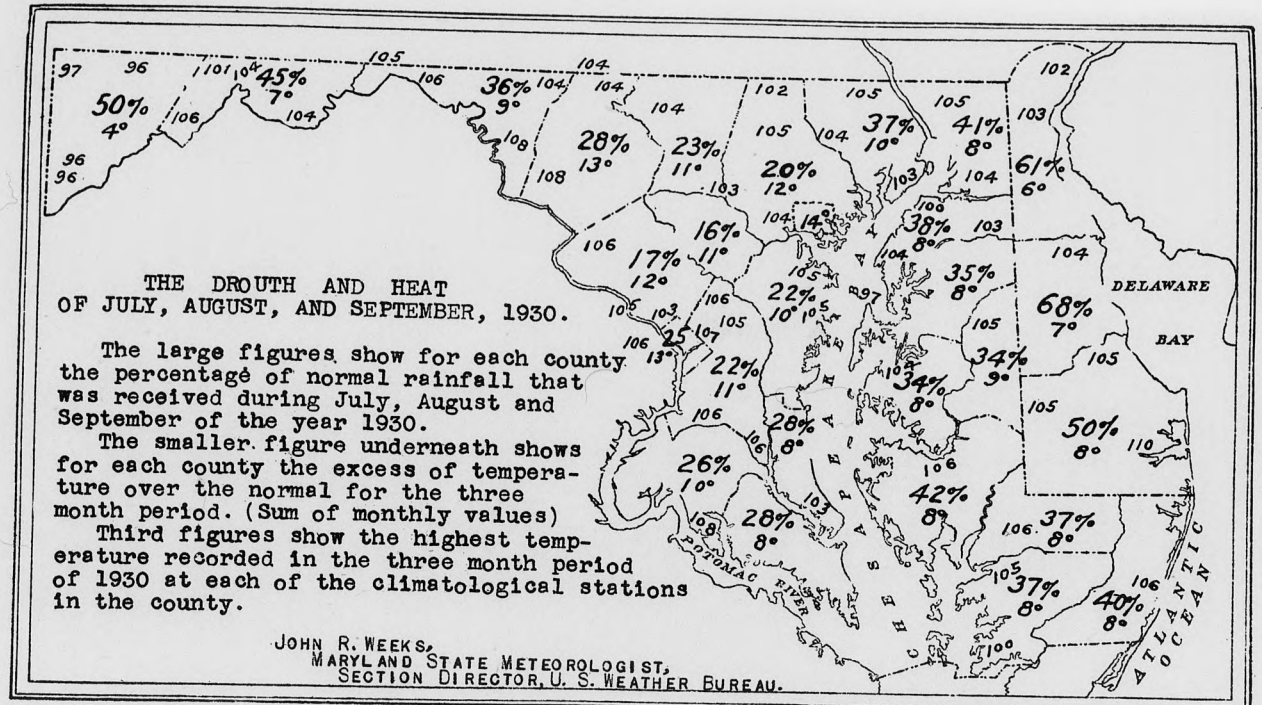
It is very difficult to give briefly, and yet accurately, a summary of such an unusual season. There was not a month in which the precipitation was not decidedly below normal. The State as a whole received only a little more than one-half of its usual rainfall for the year and the effect of the shortage of moisture was greatly accentuated during the growing months by prevalence of excessively high temperatures for extended periods. The following tabulation gives a general idea of the small amount of rainfall received and its comparison with normal seasons:

MARYLAND (1930)

Total Precipitation by Months and Percent of the Normal

	Amount Received	Percent of Normal		Amount Received	Percent of Normal
January	2.67 in.	79%	August	1.06 in.	26%
February	2.06 in.	69%	September	1.31 in.	40%
March	2.16 in.	60%	October	0.74 in.	26%
April	2.54 in.	76%	November	1.19 in.	48%
May	2.11 in.	59%	December	2.68 in.	82%
June	3.36 in.	85%			
July	1.41 in.	33%	Year	23.29 in.	56%


64%
2°
56%
14°
64%
16°
56%
20°
56%
20°
55%
17°
60%
12°
53%
24°
32°
57%
14°
65%
12°
48%
20°
48%
20°
48%
16°
55%
13°
DELAWARE
BAY
66%
16°
58%
18°
48%
30°
48%
18°
55%
12°
62%
18°
51%
8°
50%
15°
55%
16°
55%
18°
52%
10°
POTOMAC RIVER
57%
16°
60%
16°
ATLANTIC
OCEAN
THE HOT AND VERY DRY YEAR OF 1930.
The large figures show for each county the percentage of normal precipitation that was received during the year.
The smaller figures underneath show, by counties, the excess in temperature over the normal for the year, being the sum for the year of the monthly departures from the monthly normals of temperature.
JOHN R. WEEKS,
MARYLAND STATE METEOROLOGIST,
SECTION DIRECTOR, U. S. WEATHER BUREAU.


THE DROUTH AND HEAT
OF JULY, AUGUST, AND SEPTEMBER, 1930.
The large figures show for each county the percentage of normal rainfall that was received during July, August and September of the year 1930.
The smaller figure underneath shows for each county the excess of temperature over the normal for the three month period. (Sum of monthly values)
Third figures show the highest temperature recorded in the three month period of 1930 at each of the climatological stations in the county.
JOHN R. WEEKS,
MARYLAND STATE METEOROLOGIST,
SECTION DIRECTOR, U. S. WEATHER BUREAU.
50% 4°
45% 7°
36% 9°
28% 13°
23% 11°
20% 12°
37% 10°
41% 8°
61% 6°
38% 8°
16% 11°
17% 12°
35% 8°
22% 10°
68% 7°
DELAWARE BAY
34% 3°
22% 11°
34% 8°
28% 8°
50% 8°
26% 10°
42% 8°
28% 8°
37% 8°
37% 8°
40% 8°
POTOMAC RIVER
CHESAPEAKE
ATLANTIC OCEAN

It may be observed that during the first half of the year, the State received approximately 70 percent of its usual rainfall and during the last half of the year about 40 percent. For the months of July, August, September, and October there was only 4.52 inches of rainfall, which is less than one-third of normal. When the importance of adequate moisture during these months is considered, from the standpoint of providing favorable conditions for the development and maturity of a large number of crops, some impression may be gained as to the widespread effect and damage done by the drought.

Although it is not possible to discuss conditions in the various sections of the State, it should be emphasized that some areas suffered much more severely than shown by the figures for the State as a whole, while other areas experienced conditions somewhat more favorable than indicated. The accompanying maps show the percentage of rainfall in different sections and also the excess of temperature. It will be observed that some counties had as little as 16 or 17 percent of normal rainfall for the three summer months, while some of the western counties had as much as 50 percent of normal for the same period. In brief, it may be said that the entire State of Maryland was seriously affected by the drought and, with the exception of a few small sections, the damage was very severe.

Small grain crops were near enough maturity when the drought became severe to enable them to make good yields and these crops were up to, or above normal in both production and quality. The corn crop was extremely short and of inferior quality, and much of it had to be fed prematurely, because of shortage of other feed. Pastures were almost a failure and hay crops produced so little rough feed that providing feed for livestock, dairy animals, and poultry became an acute problem for farmers of the State. Canning crops, in spite of a material increase in acreage, gave considerably less than half the usual yield. Truck crops were likewise reduced in quantity produced and the quality was much below standard. The fruit industry suffered in similar measure and, in addition, was forced to meet some unusual problems due to the almost total lack of rainfall at critical periods.

The accompanying chart shows graphically the estimated damage to Maryland crops by drought, as reported by county agents on August 20, 1930.

Crop Yields and Values

The total farm value of the principal field, fruit, and truck crops grown in Maryland in 1930 is estimated at $42,816,000 by the Division of Crop Estimates of the U. S. Department of Agriculture, compared with $65,643,000, the value of the same crops in 1929. In both yield and value there were few crops that were not far below average. About the usual acreage was planted in corn, but the estimated yield was only 14.7 bushels to the acre and the total production was 7,791,000 bushels, compared with an average production of more than 19,000,000 bushels for the two preceding years. With a slightly higher price on December 15, the crop was worth $7,246,000 in comparison with a similar rating of $16,863,000 for the crop in 1929. By producing the high yield of 23 bushels to the acre, wheat growers were able to obtain 11,707,000 bushels, even though the acreage planted to that crop was 32,000 less than the year before. Low prices for wheat, however, reduced the total value of the crop more than $2,000,000 below the value in the two preceding years. Increased yields of oats, barley, and rye partially offset the lower prices that prevailed, so that the total value of these crops was not as much lower than average as was the case with corn and wheat. The production of tobacco was 18,190,000 pounds which is given an estimated value of $4,548,000.

The farm value of the potato crop was less than half that of the 1929 crop and about the same as for the crop of 1928, which was considered a disastrous year for potato growers. With 32,000 acres planted in potatoes, the total yield was 2,430,000 bushels and the value was $2,308,000.

Each of the three orchard crops was much below average in both yield and value, the combined value of the apple, peach, and pear crops being less than half the value of those crops in 1929. Prices for tomatoes, sweet corn, cantaloupes, and strawberries were about the same as in 1929, but yields and values were greatly reduced by the drought.

ESTIMATED DAMAGE BY DROUTH TO PRINCIPAL CROPS IN MARYLAND
EXTENSION SERVICE, UNIVERSITY OF MARYLAND
AUGUST 20, 1930
0
$1,000,000
2
3
4
$5,000,000
6
7
8
9
$10,000,000
11
12
13
14
$15,000,000
16
17
18
19
$20,000,000
21
22
23
24
$25,000,000
26
CORN
HAY
MILK
TOBACCO
CANNING AND TRUCK CROPS
PASTURE
POTATOES
FRUITS
WHEAT OATS BARLEY RYE
NORMAL CROP
LOSS
TOTAL NORMAL VALUE $ 85,494,959
TOTAL ESTIMATED DAMAGE $ 37,095,344

The past year was very discouraging for the livestock industry. With pastures almost a failure and unprecedented shortage of hay and other feed, it is not surprising that the estimated number of livestock on farms at the end was lower than was reported at the end of 1929. In spite of the adverse conditions, however, progress has been made in the improvement of practices employed in care and management, and in the quality of animals on the farms. Much of the reduction in numbers was in the nature of weeding out the inferior individuals and those that were least profitable.

Progress in Marketing

Problems pertaining to the marketing of farm products have been given much greater attention than in any previous year and distinct progress has been made in many phases of the work. In order to more nearly meet the demands of producers for information and assistance in improved marketing methods, it has been necessary for specialists in practically all lines to devote considerable time to marketing activities.

The most outstanding single event in the marketing field was a Farmers' Marketing Conference, sponsored by the Extension Service, which was held at the University of Maryland in August. This conference was the first event of its kind held in the State and provided farmers an opportunity to discuss together and with recognized authorities the practical problems affecting the marketing of their specific products. A number of the members and specialists of the Federal Farm Board were present and discussed ways and means whereby efforts toward improved marketing of Maryland products may be made to coordinate with the broad plans that are being made along similar lines throughout the country. Outstanding leaders in the cooperative movement in this State and in other states, and specialists in the various phases of marketing from the U. S. Department of Agriculture and elsewhere gave the benefit of their experience and study during the four-day session. Although the drought curtailed attendance, from the standpoint of focusing attention upon marketing problems and arousing interest in that phase of the farming business, the conference was a distinct success.

For some years it has been our hope to aid in the cooperative marketing of wheat. Through the stimulation of Farm Board activities it was possible for the Maryland Agricultural Corporation to secure membership in the National Grain Corporation and to thus provide means for cooperative marketing of this product in the State. While arrangements were not completed until quite late in the season, yet the Agricultural Corporation was able to handle more than 200,000 bushels of grain for our growers. It is expected that a great many more farmers will utilize this cooperative agency for handling their grain in 1931. Much time of the Director and associates was devoted to this project. It was due to the vision and unanimity of opinion among all Maryland forces interested in this project that the Agricultural Corporation was finally designated as the agency for handling wheat in this territory. Great credit is due the president and associates of the Corporation, as well as affiliated organizations in the State, for their leadership and conservatism in bringing about this result.

Definite assistance was given a number of cooperative marketing organizations. Aid was extended the Maryland Tobacco Growers in obtaining a loan from funds of the Federal Farm Board; substantial assistance was given the Maryland Farm Bureau in arranging for and carrying out the first Statewide wool pool, in cooperation with the marketing activities of the Farm Board; the Service cooperated with the Maryland State Dairymen's Association in a number of ways, particularly in the location and distribution of feed to meet emergency needs. Other organizations which are now in operation were given assistance in various ways and the foundation was laid for development of cooperative organizations to market other farm products. With work that has now been done, there is reason to believe that in the comparatively near future cooperative marketing associations may be formed for such commodities as poultry, eggs, fruits, and vegetables.

More progress has been made in bringing about general utilization of grades and standards in the marketing of farm products through Federal-State shipping-point inspection than by any other means. This service was continued and expanded during the year. It has been available to growers and shippers of fruits and vegetables in past years and was extended to pro-

ducers of maple syrup in 1930. No certificates were issued on inspections of that product, but 23 producers availed themselves of the opportunity to place on the market a product which met definite grade requirements.

Seven commodities were inspected for 72 applicants, this being an increase of 8.7 percent in the number of individual requests for the service. A total of 2,007 cars was inspected. Growers and shippers of Irish potatoes were again the heaviest users of the service, with 943 cars. Apple growers came next, with 672 cars, which is a large increase over the preceding year. Other products included strawberries, 217 cars; sweet potatoes, 159 cars; peaches, 14 cars; and tomatoes, 2 cars.

An opportunity to observe, under official guidance, just how their products are handled when they reach the large terminal markets was afforded a group of Maryland farmers by a tour of New York markets and commission houses. This tour was conducted in cooperation with the Pennsylvania Railroad and included marketing specialists of the Extension Service and county agents, along with the farmers.

The service has been very active in efforts to assist the 500 or more producers who are endeavoring to obtain adequate facilities for a Farmers' Market in Washington City. This has been an important problem and it is hoped that a satisfactory solution may soon be put in operation.

Emergency Measures

The drought emergency emphasized the value of a trained force of workers reaching into every county of the State. Both farmers and farm women have sought the assistance of Extension workers in solving the difficult and unusual problems that were forced upon them and much time and effort has been devoted to activities along that line. Programs of county agents and specialists were greatly modified in order to make their services most effective under the changed conditions. With the aid of leading farmers and farm women, a program of emergency measures was worked out and every assistance was given by all members of the Extension Service in putting those measures into operation on the farms and in the farm

homes. Special attention was given to methods for providing feed for livestock and to making the best use of home-grown products in supplying food for the family.

State Drought Committee

Effects of such a situation as was brought about by the drought are by no means confined to the farming industry and this fact was early recognized. A conference called by Governor Ritchie in August and attended by more than 60 leaders representing agriculture, banking, transportation, commercial, and other interests, served to focus attention upon conditions existing in the farming industry and started systematic efforts to alleviate the situation. Following the appointment of a State Drought Committee as an outcome of the Governor's conference, similar committees were appointed in each county with the county agent as secretary, and active steps were taken toward devising means for meeting some of the most pressing problems.

The Extension Service has had an important part in the work of both the State and county drought committees. Its intimate contact with all parts of the State has enabled it to supply definite information regarding conditions and needs, which was absolutely essential to intelligent planning of relief measures. Calls for such information have been very heavy and have entailed much time and work, but without this service none of the agencies which have interested themselves in drought relief could have made their efforts effective.

Following are the public-spirited citizens who agreed to serve on the Governor's Drought Committee:

LIST OF MEMBERS OF THE MARYLAND STATE DROUGHT COMMITTEE APPOINTED BY THE GOVERNOR, AUG. 22, 1930

Officers

Waldo Newcomer, Baltimore Trust Building, Baltimore, Md., Chairman.
J. W. Davis, Maryland Farm Bureau Federation, Baltimore, Md., Vice-Chairman.
T. B. Symons, Extension Service, College Park, Md., Secretary.

Agriculture

J. W. Davis, President, Maryland Farm Bureau Federation, Baltimore, Md.
Abram G. Ensor, Master, State Grange, Forest Hill, Md.

I. W. Heaps, Secretary, Maryland State Dairymen's Association, Baltimore, Md.
Geo. I. Gardiner, Vice-President, Maryland Tobacco Growers' Association, Baltimore, Md.
Gustavus Ober, Fertilizer Manufacturer, Baltimore, Md.
William G. Scarlett, Seed Dealer, Baltimore, Md.
W. R. Harvey, President, Maryland Stockmen's Association, Corbett, Md.
Frank M. Shook, Secretary, Tri-State Packers' Association, Easton, Md.
Howard I. Moss, President, Florists' Club, Baltimore, Md.
H. C. Whiteford, Representative, Maryland Horticultural Society, Whiteford, Md.
Aaron Fell, Secretary-Treasurer, Maryland State Poultrymen's Association, Bethesda, Md.
George S. Jackson, Western Maryland Dairy, Baltimore, Md.

Bankers

Waldo Newcomer, President, Baltimore Clearing House Association, Baltimore, Md.
Morton M. Prentis, President, First National Bank, Baltimore, Md.
Wm. J. Casey, Vice-President, Maryland Trust Company, Baltimore, Md.
John M. Dennis, President, Union Trust Company, Baltimore, Md.
Alexander Armstrong, President, Maryland Bankers' Association, Baltimore, Md.
John G. Mills, President, Eastern Shore Trust Company, Cambridge, Md.
Holmes D. Baker, President, Citizens National Bank, Frederick, Md.
Charles E. Rieman, Federal Reserve Bank, Baltimore, Md.
David G. Harry, Vice-President, Intermediate Credit Bank, Baltimore, Md.

Railroads

Charles W. Galloway, Vice-President, Baltimore and Ohio Railroad, Baltimore, Md.
George M. Smith, General Agent, Pennsylvania Railroad, Baltimore, Md.
Maxwell C. Byers, President, Western Maryland Railroad, Baltimore, Md.

Commercial

W. Frank Roberts, President, Baltimore Association of Commerce, Baltimore, Md.
Eugene Blackford, President, Baltimore Chamber of Commerce, Baltimore, Md.

University of Maryland

R. A. Pearson, President, College Park, Md.
Samuel M. Shoemaker, Chairman, State Board of Agriculture, Baltimore, Md.
T. B. Symons, Director, Extension Service, College Park, Md.

Maryland Drought Loan Corporation

One of the most urgent problems brought about by the drought was to make some provision for taking care of those worthy farmers, who by reason of the adverse conditions are

required to find outside assistance and whose credit is not sufficient to secure loans from banks, but whose standing and reputation are such as to entitle them to special assistance from a drought fund. In order to meet this important need, the Maryland Drought Loan Corporation was incorporated under the laws of the State, with Waldo Newcomer, Baltimore Trust Company, as president and the Director of the Extension Service as secretary. Machinery has been set up for promptly raising a fund to be used in meeting the needs of farmers of the class mentioned and a limited amount of stock in the corporation has been sold. Passage by the Federal Congress of an act making appropriation for similar purposes will greatly assist in meeting the situation and the need for funds as supplement, or an addition to those provided by the Federal act is not yet evident. All preliminary work has been done and such additional funds as are needed can be made available in a short time.

Reduced Freight Rates

Reduced freight rates on emergency shipments of hay, feed, and livestock, granted by the railroads of the country, proved a substantial help to Maryland farmers. A total of about 4,000 cars of hay and feed was shipped under reduced rates and meant a saving of approximately $200,000 to the farmers. The Extension Service was active in presenting information regarding conditions throughout the State and was influential, along with other agencies, in having all but two of the counties in Maryland placed in the designated drought-stricken area and thereby entitled to the benefit of the reduced rates. In carrying out the provisions relative to securing these rates, the Service, particularly the county agents, had an important and essential part. Details connected with issuing permits, together with determining whether applicants were entitled to benefits of the reduced rates, placed a heavy burden upon the county agents and required much of their time, but it also furnished them an opportunity to render a very definite and tangible service to the farmers of the State.

Inter-State Potato Committee

This committee was formed for the purpose of assisting growers of early potatoes in adapting their production to the

probable demands. It consists of the Directors of Extension of the States of Virginia, North Carolina, and Maryland, and representatives of growers and dealers, together with representatives of the Bureau of Agricultural Economics and Extension Service of the U. S. Department of Agriculture. Conferences were held to consider economic facts regarding the early potato situation and definite recommendations were made to growers as to the acreage which might most profitably be planted in that crop. Information on the trend of prices in relation to production over a series of years and also outlook information were disseminated widely among growers, together with the recommendations as to desirable acreage. Although the season was very adverse for production, the fact that growers adhered to the approximate acreage which the committee advised is evidence of their confidence in the movement.

Dairy Industry

While the past year has not shown the expansion in the dairy industry in Maryland that has been evident in a number of recent years, much progress has been made in placing the industry upon a substantial and permanently successful basis. Conditions have favored more than usual activity in the weeding out of low producers and unprofitable cows and have stimulated efforts to reduce production costs. Shortage of other sources of cash income has emphasized the important place which the dairy industry occupies in the agriculture of the State.

The Maryland State Dairymen's Association has continued to serve its members admirably. Many problems have been presented, due to the abnormal year. The same may be said of the Maryland-Virginia Association and the Inter-State Milk Producers' Association—both of which serve Maryland dairymen. We are proud of the record that these cooperatives are making, as evidenced by the fact that the price received by farmers for milk in this territory is higher than in other sections of the country.

Among the outstanding achievements of the year was the success of a team of 4-H dairy calf club boys in winning the championship in judging at the National Dairy Exposition, held in St. Louis. The showing made by dairy animals from Mary-

land at this exposition was also extremely creditable. Both in size and quality of exhibits, the showing of dairy cattle at the Timonium Fair ranks with the principal dairy shows of the country. Splendid prizes offered by the management of this fair and the assistance it has given, along with other organizations and individuals, to those participating in national events, have been important factors in furthering dairy interests.

Although activity in the construction and remodelling of dairy buildings was much less than it would have been under more favorable conditions, a great many succeeded in improving their facilities for producing high-quality products.

Improvement of Canning Crops

The most extensive program yet undertaken for the development and improvement of canning crops was planned and started, but the abnormal season largely nullified the effort. Despite an increased acreage of nearly all canning crops, the production was less than half that of an average year and some crops were almost failures.

Starting with a successful school for canners and growers in February, projects were launched to include all of the principal crops grown for canning in this State. While the general aim of the work was to improve the quality and reduce costs of production, it covered a wide variety of activities bearing upon these fundamental problems. Much attention was given to the production of high-quality seed and to the location of sources from which desirable seed for Maryland conditions could be obtained; development and introduction of improved varieties and strains of crops, methods for reducing the damage done by diseases, and encouragement of better systems of soil fertilization were other major projects.

The fine cooperation which has always been given this work by the Tri-State Packers' Association and other agencies, together with progress already made and the interest shown by growers, guarantees its success in the way of valuable service to the industry.

Japanese Beetle

Although the Japanese beetle has not become widely distributed in the State, it has presented the fruit and floral in-

terests with some difficult problems. Efforts to control the insect are not a direct Extension activity, but the work has been carried on under the Extension administration.

Maryland authorities have consistently opposed the inclusion of free territory in any quarantined area. However, the Plant Quarantine and Control Administration of the Federal Government reversed its previous policy early in 1930 and proposed the placing of a large area of Maryland territory under quarantine. This the Maryland authorities, supported by the Governor and people, vigorously protested, as it would subject vast expanses of free territory to unrestrained invasion of the beetle. After numerous conferences and final appeal to the Secretary of Agriculture, the greatest concession that could be secured from the Federal Government was an agreement whereby a considerable portion of the territory would be protected, which it had proposed to place under quarantine, but failed to protect Baltimore City and a large area of free territory surrounding it.

At a conference with Federal officials for the purpose of discussing quarantine regulations for 1931, Maryland authorities succeeded in obtaining an agreement whereby the regulations are much more nearly in line with the policy which they believe to be effective, adequate, and sound.

The Extension Service has devoted a great deal of effort to informing the people of the State regarding the seriousness of the pest and the necessity for preventing its spread.

Home Makers Active

Rural women have made notable achievements in carrying out programs of work under the supervision of Miss Venia M. Kellar. Response from rural women increases each year and likewise their interest and activities. The holding of 89 achievement days in 18 counties served as a measuring stick to check results and also was convincing evidence of the interest maintained by the women throughout the year. Through well-organized groups, a larger number of women participated in the work and new projects helped to intensify their interest. A home flower garden project, conducted in cooperation with the landscape gardening specialist, met with enthusiastic response from groups of women in 15 counties.

The Rural Women's Short Course, held each June under the auspices of the Extension Service, was attended by more than 700 women, representing each county in the State. This course serves as an opportunity for advancement in adult education for the rural women, and county leaders who attend return to their counties and through demonstrations and talks give help to other club members.

A tour of produce markets and mercantile concerns in New York City, which was conducted by the Extension Service in cooperation with the Baltimore and Ohio Railroad and participated in by 36 farm women, was a fitting recognition of the important place which farm women occupy in the marketing of products and purchase of supplies.

Radio Activities

The year has witnessed expansion in the use of radio as a means for disseminating timely information on farm and home topics. Our Radio Service, in cooperation with the U. S. Department of Agriculture, over Station WRC and a special lecture course over Station WMAL have been continued. In addition, arrangements were made with Station WJSV, one of the most powerful stations in this section, whereby lectures are given regularly twice a month.

As secretary of the Land Grant Radio Committee, cooperation has been given the U. S. Department of Agriculture and the National Broadcasting Company in the National network programs provided for the Farm and Home Hour the second Saturday of each month. National leaders from various Land Grant Institutions, including representatives of this Institution, have given interesting and valuable addresses to large audiences covering the major portion of the United States.

Considerable attention was given to problems affecting the future use and service of radio in education and a number of conferences were attended with a view to assisting in development of the best plans and policies for educational broadcasting.

National Electric Project

Use of electricity on Maryland farms is increasing at a rapid rate and there is great need for information regarding practical

and economical use of that form of power on the farm and in the farm home. With a view to supplying that need, the Extension Service has cooperated with other forces in carrying on a project known as the National Rural Electric Project, which was inaugurated in 1928. A State committee was set up, including representatives of farmers' organizations, public utilities, and University authorities. Five farms were selected in the Sandy Spring neighborhood, Montgomery County, for the purpose of demonstrating uses of electricity as applied to different phases of agriculture, including dairying, poultry raising, fruit growing, general farming, and uses in and about the home.

Mr. George W. Kable, a widely recognized engineer, is Director of the project and the Director of Extension serves as secretary. The work has now reached the point that much valuable information is available and ready to be disseminated by means of demonstrations, exhibits, printed publications, illustrated lectures, and otherwise.

Cooperating Agencies

The Extension Service has had the cooperation of a number of agencies during the year in carrying on various lines of work. As in former years, it has been the policy to join forces with other agencies when there was opportunity to advance the State's agriculture by such cooperation. In all of these undertakings a fine spirit of harmony has existed. It has been the aim in this report to give due credit to each of the several cooperating agencies when discussing the particular projects with which they were connected, but if in any case such credit has been omitted inadvertently, I take this occasion to record the sincere appreciation of the Service for all assistance received in carrying on its many lines of work.

Production and Value of Crops

In accordance with our custom of former years, a record of the estimated yields and values of Maryland's principal crops is included in the report of the Extension Service. These estimates are furnished by the Bureau of Agricultural Economics, United States Department of Agriculture, and show the acreage, production, and farm values of the several crops for

1930, with comparable figures for the two preceding years. The estimated numbers of livestock on farms at the end of the year are also given.

Crop and Year	Acres	PRODUCTION Per Acre	Total	Unit	Per Unit	Total	Value Per Acre
Corn*							
1930	530,000	14.7	7,791,000	Bus.	$.93	$7,246,000	$13.67
1929	525,000	36.5	19,162,000	"	.88	16,863,000	32.12
1928	530,000	36.5	19,345,000	"	.88	17,024,000	32.12
Wheat							
1930	509,000	23.0	11,707,000	"	.77	9,014,000	17.71
1929	541,000	17.5	9,468,000	"	1.18	11,172,000	20.65
1928	530,000	16.5	8,745,000	"	1.27	11,106,000	20.95
Oats							
1930	49,000	32.5	1,592,000	"	.47	748,000	15.27
1929	43,000	31.0	1,333,000	"	.59	786,000	18.28
1928	54,000	31.5	1,701,000	"	.56	952,000	17.63
Barley							
1930	15,000	35.0	525,000	"	.75	394,000	26.27
1929	16,000	32.0	512,000	"	.82	420,000	26.25
1928	13,000	32.0	416,000	"	.85	354,000	27.23
Rye							
1930	18,000	18.5	333,000	"	.87	290,000	16.11
1929	17,000	16.5	281,000	"	1.10	308,000	18.12
1928	15,000	15.0	285,000	"	1.15	259,000	17.27
Buckwheat							
1930	7,000	13.0	91,000	"	.95	86,000	12.29
1929	7,000	18.0	126,000	"	1.00	126,000	18.00
1928	7,000	19.0	133,000	"	.95	126,000	18.00
Potatoes							
1930	32,000	76.0	2,430,000	"	.95	2,308,000	72.12
1929	40,000	100.0	4,000,000	"	1.20	4,800,000	120.00
1928	47,000	115.0	5,405,000	"	.50	2,702,000	57.49
Sweet Potatoes							
1930	10,000	66.0	660,000	"	.90	594,000	59.40
1929	10,000	125.0	1,250,000	"	.90	1,125,000	112.50
1928	10,000	150.0	1,500,000	"	.80	1,200,000	120.00
Hay (All Tame)							
1930	392,000	.95	374,000	Tons	22.80	8,527,000	21.75
1929	423,000	1.54	652,000	"	13.68	8,919,000	21.08
1928	433,000	1.75	759,000	"	13.49	10,239,000	23.64
Tobacco							
1930	34,000	535	18,190,000	Lbs.	25.0	4,548,000	133.76
1929	32,000	800	25,600,000	"	23.5	6,016,000	188.00
1928	31,000	660	20,460,000	"	27.3	5,586,000	180.19

* The figures shown for corn include corn used for all purposes.

PRODUCTION—(Continued)

Crop and Year	Acres	Per Acre	Total	Unit	Per Unit	Total	Value Per Acre
Apples (Total Crop)							
1930	------	------	1,650,000	Bus.	$.80	$1,320,000	-----
1929	------	------	2,200,000	"	1.20	2,640,000	-----
1928	------	------	2,190,000	"	.90	1,971,000	-----
Apples (Commercial)							
1930	------	------	330,000	Bbls.	2.40	792,000	-----
1929	------	------	455,000	"	3.55	1,615,000	-----
1928	------	------	442,000	"	2.65	1,171,000	-----
Peaches							
1930	------	------	231,000	Bus.	1.50	346,000	-----
1929	------	------	532,000	"	1.20	638,000	-----
1928	------	------	465,000	"	1.30	604,000	-----
Pears							
1930	------	------	180,000	"	.85	153,000	-----
1929	------	------	254,000	"	.80	203,000	-----
1928	------	------	193,000	"	.90	174,000	-----
Grapes							
1930	------	------	1,368	Tons	----	-------	-----
1929	------	------	1,314	"	----	65,000	-----
1928	------	------	1,200	"	----	56,000	-----
Tomatoes (For Mfg.)							
1930	30,000	3.1	93,000	"	17.40	1,618,000	$53.93
1929	27,500	5.1	140,200	"	16.10	2,257,000	82.07
1928	23,910	2.8	66,900	"	15.70	1,050,000	43.91
Sweet Corn (For Mfg.)							
1930	34,000	.7	23,800	"	14.50	345,000	10.15
1929	38,700	1.3	50,300	"	15.00	754,000	19.48
1928	35,500	1.5	53,200	"	14.00	745,000	20.98
Cantaloupes							
1930	6,900	55.0	380,000	Crts.	1.55	589,000	85.36
1929	6,280	85.0	534,000	"	1.45	774,000	123.25
1928	6,040	112.0	676,000	"	1.21	818,000	135.43
Strawberries							
1930	9,400	1,650	15,510,000	Qts.	.12	1,861,000	197.98
1929	11,750	1,850	21,738,000	"	.11	2,391,000	203.49
1928	13,800	1,600	22,080,000	"	.07	1,545,000	112.03

Livestock on Farms

	Number	Value per head	Total
Horses and Colts	90,000	$83.00	$7,470,000
Dairy Cows and Calves	195,000	75.00	14,625,000
Mules and Mule Colts	28,000	104.00	2,912,000
Beef Animals	96,000	75.00	7,200,000
Sheep and Lambs	109,000	6.90	752,100
Swine	161,000	10.50	1,690,000

(Figures quoted for the value of tobacco and a few other crops, the bulk of which is not sold until later, are estimates and subject to material revision.)

Administration

There has been no radical change in the administration of the Service during the past year. A splendid spirit of cooperation exists among all workers and the relationships with other divisions of the Institution, the State Department of Public Instruction, and other agencies are most agreeable and satisfactory.

The attitude of farm organizations in the State toward the work of the Service has been sympathetic and cooperative. All forces are working together in harmony for the promotion of organization consciousness among our farm people to better enable them to solve their many mutual problems. It is hoped that special plans may develop for increasing the membership of the Farm Bureau and Grange during the coming year.

Several changes have taken place in the field force, as well as among the specialists, but perhaps during the past year we have experienced the least interruption to our work by virtue of resignations.

On February 1, at the request of the Federal Farm Board, Dr. F. B. Bomberger, Assistant Director, arranged to devote the major portion of his time to serving as Assistant Chief, Division of Cooperative Marketing, in charge of organization, with the Federal Farm Board. The Director and officers of the Institution felt such cooperation would be for the general benefit of the Service and the State. Accordingly a definite agreement was entered into with the Farm Board on a part-time basis for a period of one year, to February 1, 1931. While a major part of Dr. Bomberger's time has been devoted to Farm Board activities in Washington, yet he has continued to assist in necessary projects of the Service.

Special efforts during the past year have been made to strengthen our economic and farm management work. Plans have been developed that provide for specialists in these important fields.

Special thought has been given to the development of adult education with particular emphasis upon serving rural people of the State by giving information on subjects other than agriculture and home economics. It is believed that efforts

should be made by our Service to more and more satisfy the need of our people in general educational subjects.

The Service is receiving splendid cooperation from the Boards of County Commissioners of the several counties. Notwithstanding the pressure for decreased expenses, Boards of Commissioners have been liberal in providing for Extension work in the counties.

Following are lists of specialists, county agents, and home demonstration agents employed in the Service during the past year:

LIST OF EMPLOYEES AT HEADQUARTERS—1930

*THOMAS B. SYMONS	Director
*F. B. BOMBERGER	Assistant Director, Specialist in Rural Organization and Marketing, Chief, Maryland State Department of Markets
*E. I. OSWALD	District Agent
*E. G. JENKINS	State Boys' Club Agent
*MISS VENIA M. KELLAR	State Home Demonstration Agent
*MISS DOROTHY EMERSON	Girls' Club Agent
*MISS HELEN SHELBY	Clothing Specialist
*MISS MARGARET McPHEETERS	Nutrition Specialist
*MISS EDYTHE M. TURNER	District Agent
*MISS FLORENCE MASON	District County Home Demonstration Agent
*W. R. BALLARD	Specialist in Vegetable and Landscape Gardening
H. C. BARKER	Specialist in Dairying
†H. E. BESLEY	Assistant Agricultural Engineer
†R. W. CARPENTER	Specialist in Agricultural Engineering
O. R. CARRINGTON	Assistant Specialist Agricultural Jour.
*K. A. CLARK	Specialist in Animal Husbandry
*J. A. CONOVER	Specialist in Dairying
†E. N. CORY	Specialist in Entomology
†S. H. DeVAULT	Specialist in Marketing
†H. M. DeVOLT	Assistant Animal Pathologist
*L. M. GOODWIN	Specialist in Canning Crops
†CASTILLO GRAHAM	Assistant Specialist Entomology
*H. A. HUNTER	Specialist Canning Crops Pathology
†R. A. JEHLE	Specialist in Plant Pathology
†DeVOE MEADE	Specialist Animal Husbandry
†A. E. MERCKER	Specialist in Marketing
*F. W. OLDENBURG	Specialist in Agronomy
PAUL A. RAPER	Assistant Poultry Certification
*W. H. RICE	Specialist in Poultry
†C. S. RICHARDSON	Specialist in Educational Extension
P. D. SANDERS	Associate Entomologist
S. B. SHAW	Chief Inspector and Specialist in Marketing
*PAUL W. SMITH	Assistant in Economics and Statistics
A. H. SNYDER	Extension Editor
†W. B. POSEY	Specialist in Tobacco
†W. T. L. TALIAFERRO	Specialist in Farm Management
†C. E. TEMPLE	Specialist in Plant Pathology
*F. B. TRENK	Specialist in Forestry
*A. F. VIERHELLER	Specialist in Horticulture

* In cooperation with U. S. Department of Agriculture.
† Part-time specialists.

LIST OF COUNTY AGENTS—1930

County	Name	Headquarters
Allegany	*R. F. McHENRY	Cumberland
Anne Arundel	*STANLEY E. DAY	Annapolis
Baltimore	*H. B. DERRICK	Towson
Calvert	*JOHN B. MORSELL	Prince Frederick
Caroline	*T. D. HOLDER	Denton
Carroll	*L. C. BURNS	Westminster
Cecil	*J. Z. MILLER	Elkton
Charles	*P. D. BROWN	La Plata
Dorchester	*WM. R. McKNIGHT	Cambridge
Frederick	*H. R. SHOEMAKER	Frederick
Garrett	*J. H. CARTER	Oakland
Harford	*H. M. CARROLL	Bel Air
Howard	*J. W. MAGRUDER	Ellicott City
Kent	*J. D. McVEAN	Chestertown
Montgomery	*O. W. ANDERSON	Rockville
Prince George's	*W. B. POSEY	Upper Marlboro
Queen Anne's	*E. W. GRUBB	Centreville
St. Mary's	*G. F. WATHEN	Loveville
Somerset	*C. Z. KELLER	Princess Anne
Talbot	*R. S. BROWN	Easton
Washington	*M. D. MOORE	Hagerstown
Wicomico	*J. P. BROWN	Salisbury
Worcester	*R. T. GRANT	Snow Hill

Assistant County Agents

Allegany	*MILO S. DOWNEY	Cumberland
Baltimore	*W. H. CARROLL	Towson
Harford	*W. H. EVANS	Bel Air
Kent	*E. W. KING	Chestertown
Montgomery	*A. A. ADY	Rockville
Prince George's	*PERRY E. CLARK	Upper Marlboro

Local Agents

Southern Maryland	J. F. ARMSTRONG, (Col.)	Seat Pleasant
Eastern Shore	L. H. MARTIN, (Col.)	Princess Anne

LIST OF HOME DEMONSTRATION AGENTS—1930

County	Name of Agent	Address
Allegany	*MAUDE A. BEAN	Cumberland
Anne Arundel	*MRS. GEORGIANA LINTHICUM	Annapolis
Baltimore	*ANNA TRENTHAM	Towson
Calvert	*ALVERTA MILLER	Prince Frederick
Caroline	*BESSIE SPAFFORD	Denton
Carroll	*AGNES SLINDEE	Westminster
Cecil	*PRISCILLA PANCOAST	Elkton
Charles	*MARY GRAHAM	La Plata
Dorchester	*HATTIE BROOKS	Cambridge
Frederick	*HELEN PEARSON	Frederick
Garrett	*ELSIE BENTHIEN	Oakland
Harford	*CATHARINE MAURICE	Bel Air
Howard	*MYRNE HENDRY	Ellicott City
Kent	*HELEN SCHELLINGER	Chestertown
Montgomery	*BLANCHE CORWIN	Rockville
Prince George's	*ETHEL REGAN	Hyattsville
Queen Anne's		Centreville

* In cooperation with U. S. Department of Agriculture.

LIST OF HOME DEMONSTRATION AGENTS—1930—(Continued)

County	Name of Agent	Address
St. Mary's	*ETHEL JOY	Leonardtown
Somerset		Princess Anne
Talbot	*MRS. OLIVE K. WALLS	Easton
Washington	*ARDATH MARTIN	Hagerstown
Wicomico	*MARIAN SWANSON	Salisbury
Worcester	*LUCY WALTER	Snow Hill

Assistant County Home Demonstration Agent

Frederick	*ERNESTINE CHUBB	Frederick

Local Home Demonstration Agents

Charles and Prince George's	*MRS. ARMINTA W. DIXON	1812 Vernon St., N. W., Wash., D. C.
Somerset	*MRS. JUSTINE CLARK	Princess Anne

Garden Specialist

Carrollton and Lafayette Aves., Baltimore, Md.	MRS. ADELAIDE DERRINGER

Sources of Extension Revenue

During the fiscal year ending June 30, 1930, there were available for Extension Work the following funds: Federal Smith-Lever, $56,287.11; State Smith-Lever, $46,287.11; Capper-Ketcham, $25,627.02; Federal Smith-Lever Supplementary, $17,781.38; County Demonstration Fund, $62,434.99; State Funds for General Extension, $16,109.54; State Horticultural Fund, $13,397.16; Marketing Extension Fund, $11,287.90; Canning Extension Fund, $9,945.61; Poultry Extension Fund, $2,318.78; Dairy Extension Fund, $1,250.00; Miscellaneous Funds, including Advanced Registry, State Department of Forestry Funds, Marketing Inspection Funds, etc., $28,481.64; and $66,712.00 contributed by the various counties; or a total of $357,920.24. In addition, $11,315.29 was used for Japanese beetle and insect control work, and $18,914.00 was disbursed by the U. S. Department of Agriculture; making a grand total of $388,149.53.

During the present fiscal year ending June 30, 1931, there are available: Federal Smith-Lever, $56,287.11; State Smith-Lever, $46,287.11; Capper-Ketcham, $25,627.02; Federal Smith-Lever Supplementary, $17,781.38; Additional Federal Cooperative Fund, $17,000.00; County Demonstration Fund,

* In cooperation with U. S. Department of Agriculture.

$60,000.00; State Funds for General Extension, $16,000.00; State Horticultural Fund, $13,900.00; Marketing Extension Fund, $12,000.00; Canning Extension Fund, $10,000.00; Poultry Extension Fund, $3,000.00; Dairy Extension Fund, $1,500.00; Miscellaneous Funds (estimated), including Advanced Registry, State Department of Forestry Funds, Marketing Inspection Funds, etc., $20,000.00; and $66,800.00 contributed by the various counties; or a total of $366,182.62. In addition, there are available $25,000.00 for Japanese beetle and insect control work, and $18,980.00 disbursed by the U. S. Department of Agriculture; making a grand total of $410,162.62.

Changes in Personnel

The following changes in personnel have taken place during the year:

Mr. William T. Henerey resigned April 30, 1930, as assistant in insect control.

Mr. Paul W. Smith appointed September 1, 1930, as assistant in economics and statistics.

Mr. Eugene W. King appointed March 1, 1930, as assistant county agent in Kent County.

Miss Mary Graham appointed January 1, 1930, as county home demonstration agent in Charles County to succeed Miss Ula F. Fay, who resigned November 18, 1929.

Miss Alverta P. Miller appointed September 1, 1930, as county home demonstration agent in Calvert County.

Miss Anna Trentham appointed October 1, 1930, as county home demonstration agent in Baltimore County to succeed Miss Ruth W. Nesbitt, who resigned September 30, 1930.

Mrs. Justine W. Clark appointed September 1, 1930, as local home demonstration agent in Somerset County.

Equipment

No special additions to the equipment of the Service have been made during the past year, except necessary office facilities, including typewriters, files, desks, mimeograph, cabinets, chairs, etc. Some progress has been made in the preparation of charts for the use of our specialists.

Several pieces of exhibits have been prepared for county and community fairs. There is urgent need for more adequate provision for this line of work as we are constantly confronted with demands for exhibit material at various exhibitions.

Increasing Efficiency of Workers

Monthly conferences are held with specialists at headquarters. Special effort was made during the past year to develop programs for these conferences where special discussion would be introduced by a leader. As a result, our Extension Conferences have proved very helpful to the whole force.

Group conferences were held regularly in different sections of the State where programs of work and plans of procedure were thoroughly discussed by the agents. District agents have usually attended these conferences.

The theme of the Annual Conference was "Adult Education" and especial consideration of plans for meeting the drought situation. Considerable interest was stimulated in the adult educational field which we feel sure will be helpful to all members of the Service.

Records of Office Work

Demands upon our office force have constantly increased. With development of the Service and the addition of specialists, added burden was placed upon the office force. With the grouping of clerks in one office every effort is made to meet the demand of officers and specialists.

Much time and pride is taken in the maintenance of financial records. Miss K. G. Connolly serves as Administrative Assistant, supervises the office force, keeps financial records and otherwise aids in detail administrative matters.

During the year a total of 57,947 first-class letters was mailed from headquarters, while the total pieces of mail numbered 172,058. In all, 315,337 first-class letters and pieces of mail were sent out by the Extension Service throughout the State.

In closing this discussion of the administrative project, I am grateful to the members of the Service for their sympathetic and loyal support and especially for the able assistance rendered by Dr. F. B. Bomberger, Miss V. M. Kellar and associates, Miss K. G. Connolly, Mr. E. I. Oswald, and Mr. A. H. Snyder, all of whom have assisted in the administration of the Service.

PUBLICATIONS

PUBLICATIONS of various kinds have had an important part in Extension activities. There was greater need than in normal years for disseminating information widely and rapidly and publications, news releases, and radio proved effective means for meeting this need. The same general policies as to types and distribution of publications were followed, but considerable expansion was made in all phases of the work. More than 75,000 copies of bulletins, circulars, and information cards were issued during the year and, in addition, a large volume of miscellaneous printed and mimeographed material was prepared and sent out in connection with the programs of work carried on by the several specialists. Regular weekly and special news releases were sent to the press and the *Extension Service News*, a four-page publication, was issued each month and sent to approximately 4,000 leading farmers. It is designed to give information regarding activities of the Extension Service and timely information about important events and developments in agriculture as they apply to Maryland.

News Service—More than 200 news releases were prepared and sent to the daily and weekly papers of the State. As in former years, these releases were sent to the county agents for adaption and localization to the conditions in the several counties. Important events were covered by special releases, especially to the daily papers. Both the daily and weekly press and the farm papers have given an increasing amount of space to news and information regarding Extension activities and agricultural conditions.

Illustrations—Graphic material was used more extensively than in past years and its value is more and more appreciated by both specialists and county agents. Carefully designed charts and graphs proved exceptionally effective in presenting facts and data in an impressive and convincing manner. The use of film strips has greatly increased, many of the county agents preparing such illustrative material from pictures and data in their respective counties. With the fine cooperation that was received from Mr. Reuben Brigham and members of his staff in the Visual Instruction and Editorial Section of

Cooperative Extension Work, U. S. Department of Agriculture, definite progress was made in developing the important visual instruction phase of Extension work.

Radio—Regular schedules for broadcasting have been maintained with two stations throughout the year and a third station was added during the last seven months. Short talks on farm and home topics were given five days each week from Station WRC, Washington, in cooperation with the Radio Division of the U. S. Department of Agriculture. By the fine cooperation of Station WMAL, in Washington, a weekly radio program was presented, in which members of the staff and faculty joined with Extension workers in providing the features. In June, Station WJSV, one of the most powerful in this section, entered into an arrangement whereby programs furnished by the Extension Service are broadcast twice each month.

Publications Issued—During the fiscal year ending June 30, 1930, the following publications were issued: Bulletin 46, "More Tomatoes from Fewer Acres," (revised), 24 pages, 2,000 copies; Bulletin 47, "Something on Floors," (reprint), 16 pages, 3,000; Bulletin 48, "The Trig and Trim Club," 24 pages, 5,000; Bulletin 49, (reprint), "A New Touch on the Old Furniture," 20 pages, 3,000; Bulletin 50, "The Pattern Recipe," 16 pages, 5,000; Bulletin 50, (revised), "The Pattern Recipe," 16 pages, 5,000; Bulletin 51, "Profitable Management of the Young Forest," 12 pages, 1,500; Bulletin 52, "Summer Clothes for 4-H Girls," 32 pages, 5,000; Bulletin 53, "Maryland Quick-breads for 4-H Girls," 32 pages, 3,000; Bulletin 54, "The Art of Baking for 4-H Girls," 40 pages, 3,000; Circular 61, "Brooding and Rearing Chicks," (revised), 12 pages, 5,000; Circular 68, "The Control of Wheat Smut," (revised), 12 pages, 5,000; Circular 70, "The Art of Furniture Arrangement," (reprint), 8 pages, 2,000; Circular 74, "Points on Public Speaking," 16 pages, 7,000; Circular 75, "Sweet Potato Certification," 12 pages, 2,000; Circular 76, "The Spirit of the New Kitchen," 12 pages, 4,000; Circular 78, "What to Buy for Your Kitchen," 12 pages, 3,000; Circular 79, "The Culture of Peas for Canning," 12 pages, 3,000; Information Card 25, "Apple Spray for the Western Shore," 1,800; Information Card 26, "Apple Spray for the Eastern Shore," 1,800; Information Card 27, "Peach Spray for the Western Shore," 1,600; Information Card 28,

"Peach Spray for the Eastern Shore," 1,600; Poultry Calendar, 26 pages, 250; Fifteenth Annual Report, 86 pages, 2,000; Extension Service News issued monthly, 4,200 copies each month.

COUNTY DEMONSTRATION WORK

THERE HAS NEVER been a year in which the value and importance of a competent and efficient representative of the Extension Service in each county was so conclusively demonstrated as during the unusual and difficult season of 1930. It has been necessary to obtain definite and accurate information regarding conditions in all parts of the State that would serve as basis for emergency activities by both State and Federal agencies. Without a force, such as the county agents, in intimate contact with conditions in every part of every county it would not have been possible to secure specific and reliable information of this nature at frequent intervals, and on short notice.

For the last 12 years Maryland has maintained a regular county agent in each of the 23 counties and six of the counties are now provided with full-time assistant agents, who devote a large portion of their time to boys' club activities. Part-time assistants serve in two counties where certain projects require special attention.

Demonstration work in the counties was conducted, as in past years, on a regular project basis by county agents and specialists, as outlined by the Extension Service of the University of Maryland and the U. S. Department of Agriculture. Maryland conditions are so varied and its agriculture is so widely diversified that it is not feasible to develop State-wide programs to the extent that can be done where more uniform conditions prevail. Rather it was the aim of the district agent and subject-matter specialists, working with the county agents, to plan the work in the various counties in such a way as to meet the particular needs of the different counties and communities, and at the same time fit into a sound and constructive program for the State as a whole. In the case of a number of important farm commodities, substantial progress is being made in establishing State programs. These include tobacco, Irish potatoes, canning crops, dairy products, wheat, and wool.

Before passing to discussion of the different phases of the work, it should be pointed out that notwithstanding the fact that demonstrations were more thoroughly and definitely planned and outlined than ever before, due to the severe and continued drought, a very large percentage of them could not be carried to completion, results obtained in such an abnormal season were of little value, and it was necessary for workers in all lines to devote their efforts to emergency activities with neglect or abandonment of the program laid out.

County Programs of Work—Systematic programs of work were planned and definitely outlined in each county at the beginning of the year. The District Agent visited each county for the purpose of assisting the county agents in developing their programs and to insure a full measure of coordination between the programs carried in the different counties. Farmers' organizations rendered valuable assistance, both in determining the types of work that were most needed and in helping to carry out the various projects. Where granges or farm bureaus existed, programs were arranged jointly. In counties where there were no organizations of this type, the county agents cooperated with farmers' federations made up of community clubs in carrying the Extension Work into all parts of the county.

Calendar programs, carefully worked out and rigidly adhered to, have proved effective aids in carrying out the general programs of work. Each of the 23 county agents, together with their assistants, has planned such a program for each of the twelve months.

Drought Emergency Activities—County agents were called upon to devote much time and perform many services designed to assist the people in their respective counties in meeting the problems forced upon them by the drought. Among the more important of these activities was the service rendered by county agents in connection with reduced freight rates on feed, hay, and livestock. In putting into effect these rates, the county agent was an essential factor and was charged with the responsibility of issuing permits to those who were entitled to receive the benefit of the reduction. A total of about 4,000 cars of hay and feed was shipped under the reduced rates and meant a saving of approximately $200,000 to the farmers. A great

deal of effort was devoted to assisting farmers in the selection and planting of crops which would best take the place of those that were badly damaged or ruined by the drought and to planning the best methods for caring for livestock, dairy animals, and poultry with the limited feed materials available. In carrying out all sorts of drought relief measures, as well as providing information upon which to base all such efforts, the county agent was the key man and rendered highly essential service.

Marketing Activities—All marketing activities undertaken in the State depend in large measure upon the county agents as active factors in carrying them out. Consequently, their work in the marketing field includes many lines of effort. They have an important part in the inspection, grading, and certification of farm products, the dissemination of economic and market information, assistance in the organization of marketing groups, the improvement in quality of products, and have rendered substantial assistance to the cooperative marketing organizations now in operation. In addition, the county agents assisted in carrying out three outstanding cooperative activities during the year. A State-wide wool pool, which was formed and conducted by the State Farm Bureau Wool Pool, resulted in the pooling of 103,000 pounds of wool from 21 counties; a wheat marketing organization formed through the Maryland Agricultural Corporation proved a successful undertaking, particularly in the nine Eastern Shore counties where nearly one-third of the crop was sold cooperatively; maple syrup producers in Garrett County were organized, provision was made for inspection and grading, and the major portion of their product was sold cooperatively.

Tours—Carefully planned tours have continued to prove an effective means for conveying certain kinds of information and have had about the same place in the work of county agents as in former years. One or more tours were conducted in nearly every county and quite a number of the tours included visits to other counties, or to other states. Among the most extensive were tours conducted in cooperation with railroad companies, whereby groups of Maryland farmers were given opportunities to observe operations and methods employed in handling their products when they reach the large terminal markets.

Visual Instruction—Greater use is made each year of various forms of visual aids and county agents have made distinct progress in providing themselves with effective material for this purpose. During the past year, especial arrangements were made with the Division of Visual Instruction of the U. S. Department of Agriculture for carrying on definite projects in this line. In Harford and Frederick Counties groups of photographs were obtained by the agents and these formed the basis for a number of very fine film strips on local activities.

Other forms of visual instruction material were used extensively, especially motion pictures, lantern slides, and film strips supplied by the Extension Service of the U. S. Department of Agriculture.

Special Demonstration Projects—The arrangement and conducting of all Extension Service demonstrations within the several counties are under the direction and supervision of the county agents. They were, therefore, important factors in the actual carrying out of the many demonstration projects discussed in other portions of this report. Efforts in this line vary according to local and county conditions, but together represent practically all the important phases of Maryland agriculture.

In Worcester and Somerset Counties, improvement of the potato crop has formed the basis for outstanding demonstrations and the work was extended into Garrett County in 1930. These demonstrations have not only resulted in the growing of large quantities of certified seed potatoes and the securing of better prices for seed, but have also taught growers the nature of disease and insect damage and best methods for combating it.

Advantages to be derived from the use of approved varieties of tomatoes for canning and the growth of plants in cloth-covered frames were emphasized by extensive demonstrations in Harford, Queen Anne's, Talbot, and Dorchester Counties. More than 20,000,000 plants were grown in this way, or about 22 percent of the total number of plants required to plant the canning crop acreage of tomatoes in Maryland.

Special efforts were made in all of the 23 counties to encourage construction of better and more permanent farm buildings,

such as silos, dairy houses, poultry houses, dairy barns, water tanks, and septic tanks. Blue prints of plans placed in the hands of county agents for distribution were in great demand and were used in the construction and remodelling of hundreds of farm buildings of various types.

Other special demonstration projects included important phases of the livestock industry, the poultry industry, crop improvement, fruit and vegetable production, control of insects and diseases, soil fertility, etc. Although the drought prevented completion of many demonstrations, most of them were of considerable educational value.

Below is given a brief statistical summary of the county agents' work.

Summary of County Agents' Work

Number of farm visits made in conducting Extension work	16,535
Number of calls on agents for assistance	51,605
Number of individual letters written	44,498
Number of demonstration meetings held	1,569
Number of people who attended demonstration meetings	21,810
Number of other cooperative educational meetings held	1,504
Number in attendance at these meetings	108,789
Number of training meetings held for local leaders	89
Number in attendance at these meetings	1,244

NEGRO WORK

Work among the colored people was expanded in response to increased interest and demand. The Extension Service maintains four workers in the sections of the State where the largest population of colored people is located. A local man agent and woman agent serve the southern section of Maryland and a local man agent and woman agent work in the southern Eastern Shore counties. Farmers' Institutes and community shows have proved effective means of carrying the benefits of the Extension Service to the colored people and a number of very successful events of this nature were held. Specialists of the Service took an active part in the programs of instruction. Some good demonstration work was accomplished by the men and women and particularly by the boys' and girls' 4-H clubs. Many of the activities of the colored people were carried on in cooperation with the Eastern Branch of the University of Maryland, located at Princess Anne.

HOME DEMONSTRATION WORK

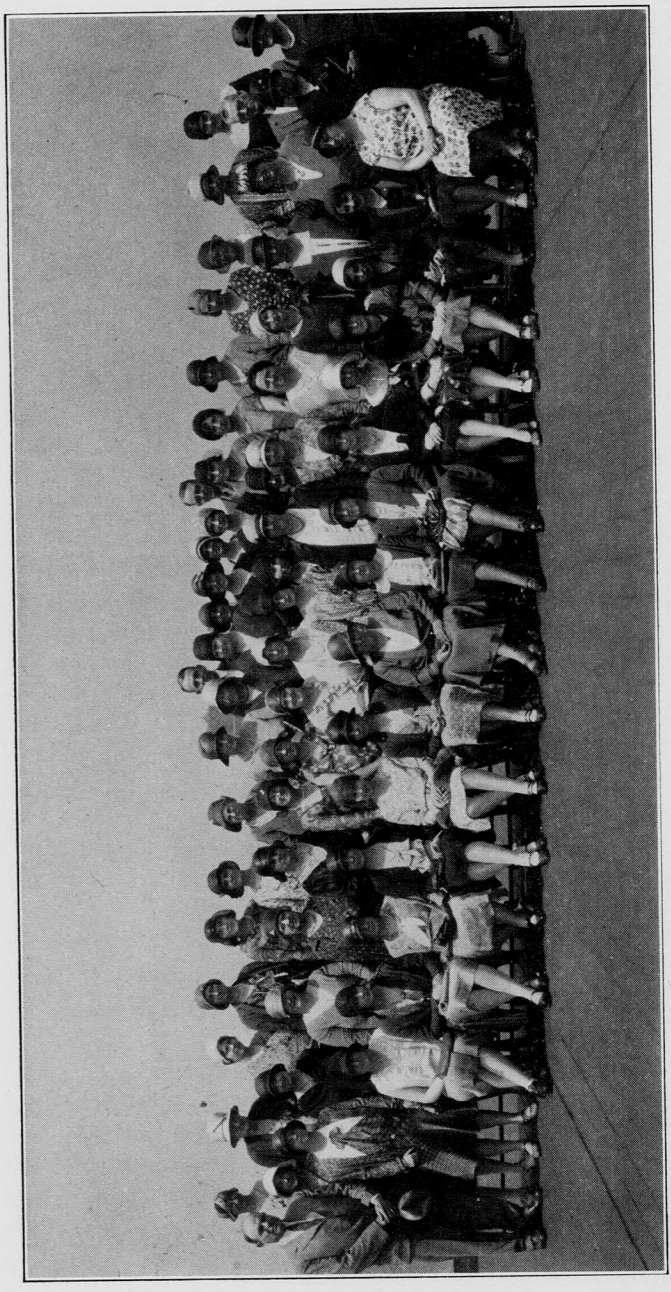
ACHIEVEMENTS in home demonstration work were outstanding during the past year. The organization for carrying on this work consisted of six State members, 22 county home demonstration agents, and two colored home demonstration agents. In addition, the home demonstration agents had the services, when needed, of the following specialists: Dairy, poultry, horticulture, landscape gardening, and rural engineering. Project demonstrators were also utilized extensively as a means of carrying on the work and many new groups were organized.

Through questionnaires, surveys, conferences, and cooperating with other public agencies, county programs of work were determined. In addition to the above methods of determining the needs of a county, achievement days, county tours, exhibits, and newspaper publicity were important influences in helping to launch Extension programs, as well as to determine results and to check on the spread of influence.

Experience has shown that more home makers are reached through group meetings. Subject-matter is presented to these groups through demonstrations by the agent or project demonstrator. Project demonstrators attend training schools conducted by an agent or specialist. Groups are encouraged to carry only one project for the year.

Community Activities—Every county has its organization of Grange or Farm Bureau. The home demonstration agent cooperates with these organizations in all community work. In most counties she assumes responsibility for the recreational side of the program.

Achievement Days—Eighty-nine achievement days were held in 18 counties in relation to project work the past year. Achievement programs serve as a measuring stick to check results and determine further progress. Another way to check on achievements is the county tour made in relation to project work.



A group of Maryland farm women, home economics specialists, and home demonstration agents who made a tour of the wholesale markets and commercial centers of New York City

Home Flower Garden Project—In 15 counties the home flower garden project was given to women interested in improving home grounds and who would act as project demonstrators for a period of three years. The women met with the home demonstration agent in four training schools where instruction was given on the principles of selection and arrangement, location of flower beds and color schemes. In 1931 this group of women will give the work to other women who wish to help in the flower garden project. This project is supervised by the two district agents, landscape gardening specialist and the home demonstration agent.

Rural Women's Short Course—The annual Rural Women's Short Course held each June is under the auspices of the Extension Service. Over 700 women, representing every county in the State, attended the course this year. The program through its lectures and demonstrations in home economics and cultural subjects is planned to give help and inspiration to the home makers of the State. It is diversified to meet the needs of all women. County leaders attending this course return to their counties and through demonstrations and talks give help to other club members as well as inspire them to attend the Short Course, which is looked upon as an opportunity for advancement in adult education for rural women.

News Letters—Home demonstration agents in 18 counties send monthly news letters to all club women and other women in their counties who ask to be placed on the mailing list. Part of the news for these letters is furnished by the club publicity chairman. The letters contain club news, county Extension news, notice of office demonstrations, club meetings, and helpful suggestions on the county project work.

Marketing Trip to New York—The Extension Service of the University of Maryland in cooperation with the Baltimore and Ohio Railroad planned a unique and interesting marketing tour to New York, June 2, 3, and 4, to study the city's market terminals.

Three farm women, who had outstanding interest in the marketing end of farming, from each county through which the Baltimore and Ohio Railroad passes were invited to go on the tour. A special rate was made for the trip, which included

railroad fare, board and lodging for the two days. In addition to the 36 farm women there were representatives from the Extension Service and railroad people, making a party of 60.

The party left the hotel at 3.00 A. M. in busses to North River to visit piers 27, 28, and 29 to see the unloading, handling, and distribution of fruits and vegetables. Agents at the piers explained how farm products are shipped from all parts of the country in refrigerator cars to Jersey City and then ferried over to the Jersey shores; others showed how the goods are unpacked and assorted according to quality, and marked. It was here that the women had a striking lesson in the value of selecting quality products. Every woman was interested in seeing how the eggs were marked according to size, weight, color, and freshness, as well as seeing the beautiful and systematic packs of fruits and vegetables in the crates. Observation of what grading and packing do in relation to price was a most worthwhile demonstration to the women.

Summary

Number of women's home-makers' clubs—(Plus 23 colored)	265
Number of women enrolled—(Plus 292 colored)	7,126
Number of counties having county organizations of rural women or home-makers' clubs	14
Number of project demonstrator training schools for women	230
Number of county office demonstrations	30
Number of county achievement days	89
Number of women attending Rural Women's Short Course	752
(Full time 552) (Visitors 200)	

Following is a summary of home demonstration work for the year, as reported by the county home demonstration agents:

Number of home visits made in conducting Extension work	5,779
Number of calls on agents for assistance:	
Office	5,395
Telephone	12,645
Number of individual letters written	17,917
Number of demonstration meetings held	4,679
Number of people attending demonstration meetings	66,393
Number of training meetings held for local leaders	301
Number of leaders in attendance	2,573
Number of county encampments held	10
Number in attendance at these encampments	746
Number of other Extension meetings attended and not previously reported	1,375
Number in attendance at these meetings	59,271
Meetings held by local leaders or committee women not participated in by agent and not reported elsewhere	868
Attendance at these meetings	12,908

CLOTHING

CLOTHING WORK was carried on in 18 counties. Two counties, Cecil and Dorchester, gave five and nine months respectively to the project, with emphasis on clothing construction. Reports from these counties show that 297 method demonstrations were given with the following results:

230 individuals have improved construction.
242 have made garments for themselves.
115 have made children's clothes.
247 have remodeled garments.

An effort was made to help mothers with their problems of designing and making self-help garments for their children. A kit of garments, made in accordance with recommendations of the Bureau of Home Economics, was provided by the State office for use in the counties. Forty-six all-day demonstrations were given in 18 counties, with an attendance of 1,082. As a result of this work, 1,156 women reported that they had made use of patterns or suggestions given at these meetings in making clothes for their children. Ten counties had exhibits of children's clothes at achievement days or county fairs. Eight counties featured 103 children wearing self-help garments at achievement day programs. In Anne Arundel County, 45 women reported that they had helped 228 mothers who did not attend the meetings.

This project lends itself very definitely to reaching new homes or new communities. In Caroline County 66 percent of the women attending the first meeting were not club members. In Caroline, Howard, and Washington Counties, 46 project demonstrators were trained, each of whom has agreed to reach at least five mothers of small children. This plan is being continued in 1931.

Schools on "Making Better Dresses" were conducted in five counties. The purpose was to give assistance to women who knew how to sew but did not feel capable of making their better dresses. Four days' training was given on planning the wardrobe and making a silk or wool dress. There was an agreement that women receiving this training should act as project demonstrators in their respective communities. Ninety-

one women received one-day training in planning the wardrobe and 59 received an extra day on making silk or wool dresses and coats. The 13 women attending the school in Baltimore County report that they have helped 50 women make 85 dresses.

Seven demonstrations were given early in the fall on remodelling old clothes, with an attendance of 229. As a result, 309 women reported that they had made use of instructions given at these meetings.

In connection with the clothing work, a bulletin on "Garment Finishes" was prepared and published.

For the purpose of obtaining up-to-date facts regarding the expenditures of farm families, a survey was made late in the year. Following are some of the records secured:

Table I—Living Expenses for 42 Farm Families

Number of counties		13
Number of adults		2.2
Number of children		2.6
Size of farm		117.3
Groceries and meat	$371.45	27.76%
Clothing	268.75	20.08%
Home equipment and furniture	83.40	6.23%
Replacement of furniture and equipment	23.43	1.75%
Fuel, light, and telephone	103.02	7.7 %
Doctor, dentist, and medicine	67.77	5.06%
Education	73.53	5.5 %
Church and charity	51.83	3.87%
Recreation and social life	46.46	3.47%
Repair, painting, house improvements	231.69	17.32%
Personal expenditures	16.74	1.25%
	$1,338.07	

Table II—Average Cost of Clothing for Farm Families

Table II—Average Cost of Clothing for Farm Families

Number Families	Living Expenses	Total Cost of Clothing	Father	Mother	Infant	Children 1-5		Children 6-11		Children 12-15		Children 16-20	
						Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
32	$1,170.77	(21.4%) 251.34	69.54	77.41	(4) 18.85	(10) 25.91	(12) 24.29	(7) 32.27	(27) 34.37	(7) 35.60	(8) 61.67	(3) 42.50	(6) 128.08
106	———	289.57	88.41	100.79	(8) 16.74	(24) 30.06	(28) 25.06	(36) 38.46	(62) 40.17	(27) 62.59	(25) 54.00	(12) 88.15	(21) 106.15

Table II shows the average cost of clothing for two groups of farm families. Of the 106 families filling out the cost of clothing survey blanks, only 32 of these were accompanied by living expenses blanks. Ten of the 42 sending in living expenses blanks used in Table I did not report the cost of clothing fully enough to be used in the study. The number in parenthesis shows the number of children in each group.

Table III—Average Cost of Shoes for 40 Farm Families

	Father	Mother	Children	Children 6-11		Children 12-15		Girls 16-20
				Boys	Girls	Boys	Girls	
Number Involved	40	40	47	39	57	37	24	20
Number Shoes in Use	2.09	3.12	2.5	2.4	2.8	3	2.87	3.55
Total Cost of Shoes in Use	$13.76	$14.26	$4.58	$6.47	$7.05	$12.00	$10.10	$16.50
Cost Per Year	$10.96	$11.66	$4.74	$6.55	$7.64	$11.45	$11.21	$14.80
Average Price Per Pair	$6.50	$4.57	$1.03	$2.69	$2.52	$4.00	$3.52	$4.65

NUTRITION AND HOME MANAGEMENT

THE AIM of the foods and nutrition program this year was to raise the standard of living in Maryland by promoting better health, through greater knowledge of and increased ability to observe good food and health habits, through raising the standard of products in food preparation, and through more efficient methods of work and more efficient kitchens in which to work. Practically all counties have done work in foods and nutrition during the year.

Food preparation was especially emphasized because of the large amount of time and energy expended by the average home maker in preparing three meals each day. This has been accomplished by a series of demonstrations presenting definite problems in food preparation and the application of solutions for these problems to other situations. Food selection and preservation were considered along with food preparation. Meal planning by use of the foods score-card is becoming a habit with many home makers, although there is still much to be done on this phase of the work.

The problem of meeting the present economic situation and feeding the family for good nutrition with the food and money available has been given much attention. Timely and practical information regarding economic food budgets, low-cost diets, and preparation of available and inexpensive foods was widely disseminated by means of news letters, news articles, talks, and demonstrations at club meetings, and through other public gatherings.

Interest in the food and nutrition work has increased throughout the project and many women are applying in their homes the principles learned. They show greater interest in food preparation, especially from the standpoint of producing a standard quality product with the minimum amount of time and energy. They are also more concerned than ever before about low-cost diets that will meet nutritional needs of their families.

Some of the outstanding improvements in foods and nutrition are as follows: (a) Mastery of a few foundation or pattern

recipes and ability to vary the basic ingredients of the pattern to produce a variety of products; (b) more intelligence and less guesswork used in preparing food for the family; (c) more standard products are produced; (d) fewer utensils are used in cooking, many labor-saving utensils are bought, less time and energy are involved in preparing and serving meals; (e) more simple and nutritious meals are served, especially fruits and vegetables; (f) there is greater recognition of the money value of food and less waste of farm and garden products.

Table of Results

Number of counties majoring in foods and nutrition	15
Number of communities reached by demonstrations	189
Number of women reached by demonstrations	5,721
Number of meetings held in foods and nutrition	1,331
Number of women planning budget for year	777
Number of women balancing family meals	1,504
Number of women packing better school lunches	344
Number of women adopting improved practices in food and preparation	3,837

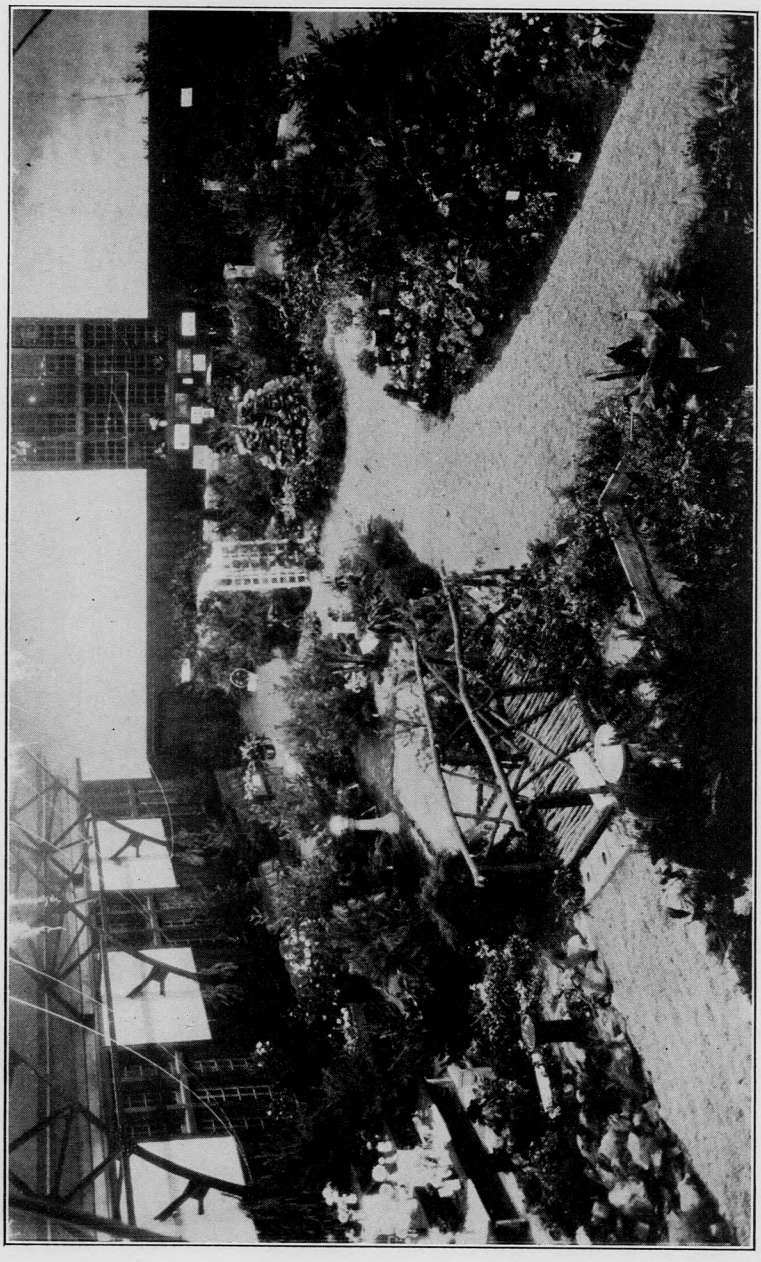
DISTRICT AGENTS' WORK

MARYLAND has two district agents—one located at Salisbury on the Eastern Shore, the other at College Park. The agent on the Eastern Shore has organized and developed home demonstration work in two counties, Somerset and Queen Anne's, in addition to doing supervisory work in seven counties. The agent on the Western Shore has organized the work in Calvert County and carried on a supervisory program in 16 counties of the State.

The three counties developed this year have 20 groups with a total membership of 633 new people who have never had the work previously.

Both agents have been responsible for training home demonstration agents in the subject-matter and demonstrations pertaining to refinishing of floors and of furniture; they also helped with the home flower garden project.

A filing system, a system of office procedure, and a plan for reporting to the State office on supervisory visits to the agents have been worked out.



A part of the annual Flower Show sponsored by the Home-makers' clubs and home demonstration agent in Cecil County

The supervisory program has consisted of helping the agents with formulating their year's program of work, of attending spring rallies, or council meetings, where a talk or demonstration on some phase of the work was given. In company with the home demonstration agent, clubs were attended, where the district agent might observe the way in which the work was presented to the group by the agent and the reaction of the women.

Necessity for reaching more people resulted in the district agents working with an agent to develop the use of project demonstrators, in order that the county home demonstration agent might have free time to develop new communities.

GIRLS' CLUB WORK

THE STATISTICAL REPORT for girls' club work in 1930 shows an increase of 13 percent in enrollment. The 275 clubs were organized with club officers and carried on their monthly business meetings according to parliamentary procedure.

Clothing club members used the two clothing bulletins prepared for them by the clothing specialist. They are learning not only to make simple garments, but to select suitable colors, materials, and designs—how to care for their clothing and how to be "well dressed" at all times at an expenditure within their means.

Three bulletins were written for 4-H foods' club members by the nutrition specialist. Foods work is training the girls to form good food habits, develop judgment in selecting recipes, develop skill in preparing simple meals and to work efficiently with the minimum of time and utensils. Canning club members have an ample supply of standard, home-canned fruits and vegetables on their pantry shelves.

Some club members have added to their club achievements the ability to furnish their rooms attractively.

The older girls, who have received training in club work for a number of years, are giving back to the community by helping younger girls start their 4-H training. These older girls are also helping home demonstration agents plan and direct county club activities. 4-H girls home from college and normal school are directing the activities of county and State

A part of the annual Flower Show sponsored by the Home-makers' clubs and home demonstration agent in Cecil County

camps under adult guidance. Girls of seven counties went camping this summer—their camp programs are both educational and inspirational with opportunity for all to learn to take responsibility.

Records of those club members who have passed the active club age show that opportunities given them for development through the 4-H program have enabled them to be successful in whatever line of work they followed. Those who have remained in the rural districts are community minded because of their club training and they are working with adult leaders to bring continued progress to their towns.

An outdoor demonstration in 4-H Girls' Club work

1930 Statistics

Number of girls' clubs	275
Girls enrolled	3,469
Number of garments and articles made	15,001
Number jars fruits and vegetables made	17,313
Number of girls' active club members for four or more years	472
Number of local leaders	328
Number of demonstration teams trained	104
Number of girls attending county camps	175
Number of girls attending Club Week	265

4-H BOYS' CLUB WORK

INTEREST in 4-H club work and activities associated with it showed a gratifying increase in 1930. County agents enrolled 3,411 boys and girls in agricultural projects, which is an increase of 24 percent over the number enrolled in 1929. Enrollment in 1929 was 14 percent greater than in 1928, which, in turn, was 14 percent more than in 1927.

Club activities increased in spite of the adverse conditions. The drought cut down the percentage who completed their projects in crops, but an increased number of completions in livestock projects brought the record a little above last year. Reports show 2,706 projects completed in 1930, compared with 2,262 completed in 1929. More boys found it possible to hold their livestock and to show them at fairs, and more boys attended Club Week, county camps, and other such affairs. More clubs are making definite plans for the coming year and more older boys are taking active interest in club affairs.

Extension demonstration education is reaching an increasing number of boys and girls who have left school. We do not report the scores of young men and women past 21 years of age who are still closely associated with club affairs, many of them carrying on their projects, attending club meetings, developing county federations and councils, and backing up the Extension program all along the line. Not counting any over 21, there were 2,129 in school and 461 not in school. White county agents have enrolled more than 21 percent of their club members from among the rural boys and girls who have left school. It is significant that 28 percent of the white club members are over 15 years of age.

Ages of Club Members

	10	11	12	13	14	15	16	17	18	19	20	
Boys	153	234	301	312	369	327	276	174	99	76	42	2,363
Girls	8	24	28	33	37	48	16	18	7	8	5	232
Total	161	258	329	345	406	375	292	192	106	84	47	2,595

Average Age—14 years, 1 month.

	Years in Club Work					
	1st	2nd	3rd	4th	5th	6th and over
Boys	819	750	432	218	83	73
Girls	86	67	33	11	4	4
Total	905	817	465	229	87	77

Supervision—In supervising the work, the State boys' club agent spent 154 days in the field, traveled 2,534 miles by auto and 11,296 miles by train. He made 187 contacts with county agents and visited every county from one to seven times. Forty-six club meetings were attended, 108 demonstrations were visited or observed, 14 community and county exhibits were attended, and many contacts were made with boys and their projects at fairs.

Projects—Dairy demonstrations lead all the others again this year. Maryland is improving its dairy industry year by year and the part club work plays in this improvement is indicated by this report.

In 1930 there were 715 members owning 1,091 dairy animals on which they reported. Nearly all were registered and tuberculin tested. The boys and girls were actually demonstrating better practices in selection, breeding, care, and feeding. In many cases, they own the best animals in the home herds. Records made at county and State fairs indicate that considerable of the best stock in the State is owned by club members.

Thirteen counties reported a total of 393 club dairy cattle exhibited at county fairs, and eight counties report 208 exhibits at inter-county and State fairs. Fourteen club Jerseys were taken to the National Dairy Exposition and every animal shown was inside the money awards. No other State won more money in that breed. In the fourteen "groups of five" Maryland stood second and sixth. At the State Fair, club animals placed in every open class in which they were entered and one county secured more than $1,000 in prize money, although not winning the largest amount in club classes.

It would seem that club work is an important factor in placing better cattle on Maryland farms.

Fifteen counties trained boys in judging cattle and hundreds of boys engaged in judging contests. A team composed of

William Chilcoat and James Johnston, of Baltimore County, and Charles Clark, of Harford County, with David Joesting as alternate, won first place in judging dairy cattle at the National Dairy Exposition, outranking teams from 25 other states. For the fourth time in 11 contests Maryland has won this honor and the privilege of representing the United States in the International Contest in England.

A demonstration team composed of Gerald Ensor and Ward McGraw, of Baltimore County, won sixth place among 32 teams competing at the National Show.

These accomplishments indicate that the type of dairy information and dairy practices taught in the Extension programs is at the top, or near the top, among the best known and most acceptable ideals in selection, care, and management of dairy cattle.

Poultry demonstrations were a close second in point of interest; 511 of the 699 enrolled reported ownership of 24,189 birds at the close of the year. Since practically all these are standard bred birds, this project is helping homes and communities to inprove this important business. Colored club boys and girls are doing much good work along this line; 248 negro boys and girls have reported their work with their own or the home flocks this year. Very encouraging improvement in housing, sanitation, and management was observed in several large negro communities as a direct result.

White club members showed 439 birds at eight county fairs, 13 counties held poultry judging contests and 11 entered inter-county or State judging contests. Pascal Renn, Frederick County, and Lee Howes, Montgomery County, will compose a State team at Madison Square Garden in January.

Swine club work decreased, 239 white club members completing projects, compared with 275 last year. Eighty-one negro demonstrations were reported and most of these were very commendable, especially in the practice of better sanitation.

There were 474 projects in various crops. Corn was nearly a failure, and home garden work was most discouraging. Some good work was accomplished with potatoes, especially in Garrett County where 51 boys produced nearly 6,000 bushels of

certified seed. Undoubtedly the boys who raised more than 55,940 pounds of tobacco, estimated to be worth at least $15,445.00, profited most by their labor this year. This is the only crop, the only enterprise, that was more profitable than in any previous year, and that showed no loss from declining values. The Maryland Tobacco Growers' Association invited a boy from each of the five tobacco growing counties to be their guests in Baltimore during the meetings of the State Farm Bureau and affiliated organizations.

The following table shows results of the work and play of this year's 4-H club enterprise carried on by county agents with white boys and girls:

Projects Completed	Number
Poultry	511
Dairy	719
Swine	239
Sheep	19
Beef cattle	31
Other livestock	4
Potato	98
Corn	44
Tobacco	126
Market garden	90
Home garden	116
Others	40
Total	2,037

Inspirational and Educational Affairs	Number
Local leader meetings	24
Attendance at same	262
Community and achievement days	67
Attendance at same	No report
Camps	6
Attendance	173
Banquets	10
Estimated attendance	1,200
Dairy judging contests	15
Poultry judging contests	9

There were 1,932 boys at the University for the annual Club Week, which improves in every way each year.

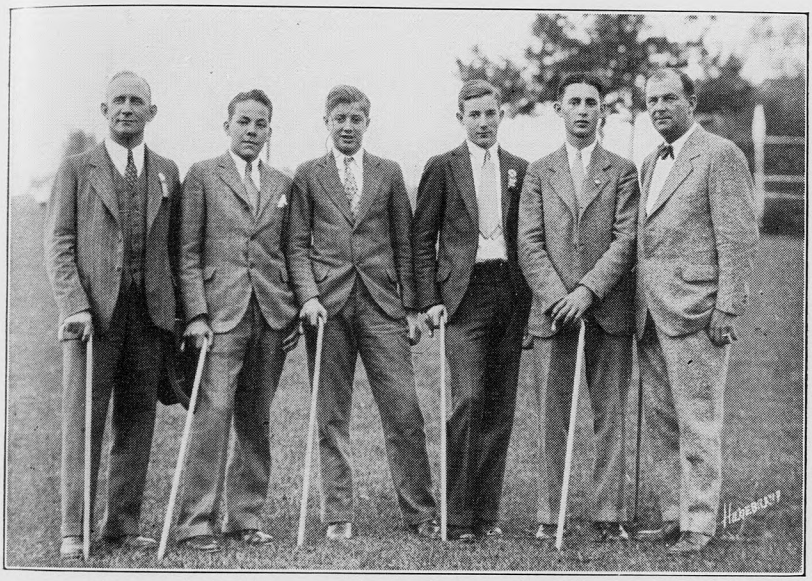
One hundred sixteen head of cattle were shown in club classes at the State Show, Timonium Fair. The Fair Association paid $763.00 in prizes, $200.00 in dairy cattle judging awards, and contributed $300.00 toward expenses of the State judging team at the National Dairy Exposition. They also cared for more than 200 boys, their cattle, and their swine during the fair.

The Maryland Bankers' Association again awarded $1,000 to club affairs, $100 of which was diverted to help vocational school trips. Club delegates were sent to the Eastern States Exposition, National 4-H Club Camp, National Dairy Exposition, and to State club encampments in Massachusetts and Rhode Island.

The negro club encampment at Princess Anne in July was well attended and was a fine achievement, as was also the negro

inter-county exhibit and achievement meeting at the same place in November.

The year closes with 4-H club work in the strongest position it has yet held in its endeavor to aid the Extension program and serve Maryland's rural youth.



The team of Maryland 4-H Club boys that won the championship in judging dairy cattle at the National Dairy Exposition and will represent the United States in international contests

AGRONOMY

PASTURE IMPROVEMENT was planned as the principal line of agronomy Extension work for 1930. Because of the drought, it was necessary to make some changes in plans and results were considerably curtailed.

Top dressing pastures with fertilizer in the early spring was the phase emphasized. The object was to show that pastures so top dressed were ready for the cows two or three weeks earlier, had greater carrying capacity, yielded more palatable and nutritious grass, and lasted longer into the summer than untreated pastures.

Twelve pilot demonstrations, which were established in 1929, were continued. Yield records from five of them up to June, when it became too dry for further records, showed an average increase of three-fold for plots top dressed with complete fertilizer. Other plots to which complete fertilizer was applied gave similar increase.

As a result of the work of 1929, it was possible to establish a number of larger demonstrations, the farmers top dressing nearly all their pastures except a small part for comparison. The average increase on the five demonstrations from which records were obtained was three-fold, but the best one gave a five-fold increase.

In order to demonstrate the economy of pasture improvement practices, arrangements were made with four dairymen to keep milk and cost records for the time their cows were on fertilized pastures, unfertilized areas, and in the barn. Two men completed their demonstrations, notwithstanding the drought, and made detailed reports showing substantial gain from the practice.

Many other and simpler pasture improvement demonstrations were carried on, involving, (1), top dressing a small area and observing results; (2), sowing suggested pasture mixtures; and, (3), establishing supplementary pastures for early spring or late summer use, principally sweet clover.

In all the pasture work, the idea was emphasized that the object was to produce milk at lower cost and not to produce more milk and thus add to the market difficulties.

Wheat—As the result of demonstrations on the control of bunt or stinking smut the past five years, the practice of treating wheat with copper carbonate dust, or buying seed wheat already treated, is quite generally followed by the more progressive farmers, but, in spite of this, the disease is spreading. To determine how prevalent it is, a survey was again made in June. In cooperation with the plant pathologist, 263 fields were inspected in 10 counties, with the result that 37 percent of the wheat fields were shown to contain considerable smut. Damage did not appear so great in the harvested crop, because of the extremely dry and hot weather. This condition allowed most of the smut balls to be removed by the threshing machine.

Barley fields were also visited and a considerable amount of smut was found in a large percentage of them. In view of the increasing importance of this crop, 10 demonstrations were established in four counties.

Numerous demonstrations on top dressing wheat in the early spring with nitrate of soda or sulphate of ammonia were carried on and, as in previous years, this practice gave substantial increase in yield.

Wheat Seed Certification—To maintain a source of good, pure seed of adapted varieties for Maryland farmers, seed certification is necessary. The fields of 35 seed wheat growers were visited by the agronomy specialist, the standing wheat was carefully inspected for purity and freedom from disease, and later samples of the wheat were examined at the University. Total wheat inspected represented 15,000 bushels. The wheat of four growers passed certification and that of 12 others was listed. This represented 7,015 bushels of excellent seed. This information was sent to county agents and to others who might be interested, and to those who sought sources of good seed.

Wheat Grading—To satisfy a demand from Eastern Shore farmers that their wheat be graded at the shipping point, a grading laboratory was again established at Easton. Due to the dry weather at harvest time, the demand for grading did not materialize to the extent expected. Official samples were taken from 11 bins, 4 cars, and 2 boats, involving a total of 13,350 bushels of wheat.

Seed Corn for 1931—During the fall there was much apprehension that there would be a great shortage of seed corn, because of the exceptionally low yield of corn. Work is in progress by the agronomy specialist in cooperation with county agents to locate as many sources of seed in the State as possible. Fifty-two farmers were visited in northern Cecil and Harford Counties and their corn was inspected. In this region, the damage to corn was least in the State. Numerous questionnaires were also sent out. To date, 23 sources, involving 4,880 bushels of good seed, have been located.

Miscellaneous—Aside from the major lines of work, many other activities in the field of agronomy have received atten-

tion. These have included judging at State and county fairs, participating in Extension Schools, preparing and supervising exhibits, holding demonstrations, visiting hundreds of farms, etc.

ANIMAL HUSBANDRY

EXTENSION ANIMAL HUSBANDRY projects for 1930 featured improved production and marketing practices, together with emergency measures for meeting problems incident to the drought.

Maryland Litter Contest—There were 33 entries in this contest, which is the largest number ever entered in any year. Twelve of the entries made the required weight of 1,500 pounds in 150 days. The heaviest litter, owned by Maurice Iager, Howard County, weighed 2,203 pounds at the end of a 150-day period.

Ram Sales—Two ram sales were held, one at La Plata on June 26 and the other at Centreville on July 29. At the La Plata sale 19 purebred rams were sold for an average of $32.97 a head and at Centreville 38 head of purebred rams brought an average of $30.72 a head. At least 500 people attended these sales and the rams found wide distribution. Three were shipped to Maine and several went to Pennsylvania, Delaware, and Virginia. The sales are held under the auspices of the Maryland Stockmen's Association, with cooperation of the Extension Service.

Sheep Demonstrations—About 25 demonstration meetings were held during the year on treating sheep for parasites, docking and castrating lambs, culling ewe flocks, slaughter-lambs for home use, and shearing.

Wool Pool—During the spring farmers were given an opportunity to pool their wool on a plan sponsored by the Federal Farm Board and actively carried out by the Maryland Farm Bureau Wool Pool. About 100,000 pounds of wool was assembled in this pool, which is the largest tonnage of wool ever pooled in Maryland in one year.

Beef Cattle—During the last year a great deal of interest has been shown in feeding and breeding beef cattle. No less

than 10 herds of beef cows have been established during the year for the purpose of producing high-class baby beeves. A beef cattle tour was conducted in the Clarksville steer feeding area of Howard County early in the spring, in which about 80 farmers and feeders participated. In demonstrations, lectures, and tours it has been shown that production of high-class baby beeves will pay in most years.

The Maryland Baby Beef Club this year contained 58 steers, shown by 31 members. These cattle averaged $11.28 per cwt. in the Baltimore Livestock Show and Sale.

Drought Emergency Work—The severe drought, lasting the greater part of the growing season, created an acute shortage of feed on livestock farms and importation of unprecedented quantities of hay and other feeds was necessary. The Extension specialist in animal husbandry spent 25 days in Colorado and Nebraska, studying the feed situation, locating feed to ship to Maryland, and attending to details connected with the purchase and shipment of feed. This project was undertaken at the request of the Maryland State Dairymen's Association and that organization assisted in financing the trip.

As a result of this effort, Maryland farmers, principally dairymen, were directly assisted in securing 1,155 tons of alfalfa hay and 910 tons of alfalfa meal. No accurate determination can be made of the amount saved by farmers through buying their feed in this manner, but a conservative estimate would be $5.00 per ton. Much feed was obtained in addition to that which this Service directly and definitely helped to locate and import. Many farmers were advised and assisted in getting feed, but ordered it directly from the source of supply. No figures are available as to feed obtained in this manner, but it is safe to estimate that an additional 2,000 tons were brought into the State more or less directly through efforts of the Extension Service.

Following the lead of the Federal Farm Board and the U. S. Department of Agriculture, especial efforts were made to provide farmers with information relative to feeding wheat to livestock. By means of news articles and mimeographed sheets, reports of experimental work showing results of feeding wheat to various kinds of livestock were given wide publicity.

Baltimore Livestock Exposition—The Second Annual Baltimore Livestock Show was held in the Union Stock Yards in Baltimore on October 14-17. From the beginning, the Extension Service has given close cooperation in arranging and conducting this event and the animal husbandry specialist has assisted in the management. Everything considered, this show and sale was one of the most successful held throughout the country during the year. A total of 268 4-H club steers from Maryland, Virginia, West Virginia, and Illinois was exhibited and approximately 125 car-loads of cattle were on display, coming from all over the eastern half of the United States and from points as distant as Kansas and Texas. Total sales of livestock shown amounted to $217,227.25, which is less than was realized in the 1929 sale, but it is considered good in view of the lower livestock values this year.

HORTICULTURE

CONTINUING the program of the past few years, the plan of work in Extension horticulture was based upon pertinent orchard problems, the recommended solutions being, (a) light pruning of young trees of all kinds; (b) moderate pruning of bearing peach trees; (c) heavier pruning of older bearing apple trees; (d) use of nitrogenous fertilizers; (e) proper soil management, so as to increase the organic matter content of the soil; and (f) thinning of fruit. In all work, improvement of yield, consistent with quality, and reduction of production costs have been of first consideration.

The fruit crop of 1930 was affected by late freezes in spring and the extreme dry weather of summer, resulting in new and serious problems of growth and marketing.

Demonstrations of Pruning—Visual instruction of recommended pruning practices was carried to 53 orchards, the total audience being 307 people. These demonstrations included trees of all types and ages, also small fruits and grapes. Results have shown improved production of new wood and fruit spurs, better formed trees, and improvement in size and color of fruit from good pruning practices.

Demonstrations of Fertilizers and Organic Matter—The dry season proved the value of organic matter in many orchards.

All of the 11 nitrogen fertilizer demonstration plots showed favorable returns in either fruit yield, tree growth, or both. It is not possible to separate fertilizer from soil organic matter content, and while nine orchard management demonstrations this year showed fair results, there is no question as to the necessity of soil organic matter in fruit production.

Fruit Thinning—This practice was stressed in news releases, news letters, and orchard visits. The majority of growers are thinning fruit, but, due to uncertain crops, the thinning is not severe enough and more emphasis must be placed upon it during the coming year.

Miscellaneous—Three hundred orchard advisory visits, judging six fruit shows, two radio talks, addresses before 10 meetings, six horticultural schools held in six counties, two field meetings, and publication of monthly growers' news letters are among the miscellaneous activities carried on during the year.

LANDSCAPE GARDENING

OUTSTANDING FEATURES of the work in ornamental gardening during 1930 were the flower growing projects. These included both girls' clubs and adult work. A total of 169 girls undertook the garden project and 82 completed the work. The adult flower garden project was limited to training of 261 project demonstrators in 15 counties. Instruction for the year related only to annual flower plants and was given in four lessons dealing with (1) general principles of arrangement, (2) preparation of the soil, (3) planting, and (4) general care of the garden.

The specialist met the home demonstration agents in groups and outlined the subject-matter and they in turn presented the material to the project demonstrators. These demonstrators were to carry out in their own gardens, as far as possible, the practices recommended. During 1931 these project demonstrators are to give the four lessons to their respective clubs, while at the same time receiving instruction in the second year's work, which includes perennials, biennials, and bulbs. The third year's work will include trees and shrubs.

Remarkable enthusiasm has been developed by the project,

due in large measure to energetic supervision by the district agents and effective cooperation of the home demonstration agents.

Requests for landscape demonstrations during the year totalled 68 and plans were completed for 44, distributed as follows: Home grounds 25; school grounds 15; miscellaneous 12. In addition, 64 advisory visits were made to other farms or homes. Thirty-three addresses were delivered, with a total attendance of 1,642, and three talks were broadcast by radio.

Information sheets relating to ornamental gardening were issued monthly and a monthly news letter sent to members of the Maryland Vegetable Growers' Association. The specialist has continued to act as secretary-treasurer of that organization.

Miscellaneous activities included judging garden contests and exhibits, staging an educational exhibit on good lawns, distributing bulletins and other publications, issuing Extension Circular No. 71, "It Pays Extra Dividends; Invest in a Good Lawn."

DAIRY HUSBANDRY

THE DAIRY INDUSTRY was confronted by many difficult problems during the year, but the manner in which it has withstood the adverse conditions is evidence of the sound basis on which it has developed. Practically all of the milk produced in Maryland is for city consumption and consequently the prosperity of the consuming public is of utmost importance to Maryland dairymen. With many people out of work, there has not been the demand for milk during the past year that existed in former years. This reduction in demand was reflected in the price paid for surplus milk, but the price of basic milk was maintained on all three markets up to December 15, when the Philadelphia market dropped 40 cents per hundred pounds. The success with which milk prices were maintained in the face of reduced demand is a tribute to the value and effectiveness of the cooperative organizations through which Maryland dairymen market their products. The three dairy marketing organizations handled 45,239,165 gallons of Maryland milk in 1930.

4-H Dairy Calf Clubs—This work, together with demonstrations and judging, is one of the most important activities in dairy lines. It is carried on with boys and girls, many of whom will be the dairymen of tomorrow and, furthermore, their work has an important influence on present-day dairymen and is often the means of improving the home herd.

There were 823 members enrolled in calf club work with a total of 1,090 calves, an increase of 46 members and 185 calves over 1929. One hundred and sixteen calves from 12 counties were shown at the Timonium State Fair. The State 4-H Jersey Calf Club showed 14 calves belonging to its members at the National Dairy Exposition in St. Louis, winning six individual prizes and second and seventh places in herd exhibits. A state judging team won the National 4-H dairy judging contest and will represent this country in international contests. In the contest between demonstration teams from 32 states, the team from Maryland took seventh place.

Herd Improvement Associations—Interest in herd improvement associations continued to increase. Two more such associations were organized, raising the total to 13, with approximately 5,000 cows on test. The National Dairy Association offers honor roll certificates for all herds of five or more cows producing an average of 300 pounds or more of butterfat and 69 herds qualified for this honor.

Average production for the year was 7,264 pounds of milk and 297 pounds of fat. While this is not quite as high as the average reached in 1929, it is evidence of distinct progress that so satisfactory a record could be made under the conditions that existed.

Purebred Sires—During 1930, Extension agencies were instrumental in placing 178 purebred sires among Maryland dairymen. In cooperation with Mr. C. E. Stauber, of the Dairy Bureau, U. S. Department of Agriculture, eight purebred Jersey bulls from the Government Farm at Beltsville were loaned to breeders in Garrett County. These bulls will constitute a breeding ring in that county and will be used for eight to ten years. They are all from dams making more than 500 pounds of butterfat and by gold- and silver-medal sires, and should make a wonderful improvement in the cattle of Garrett County.

A Better Dairy Sires Train was run through Maryland and other states and three purebred bulls from that train were placed in this State.

Construction Work—Due to the drought, there was not the activity in this line that there was in 1929. However, the Extension Service rendered assistance in the remodelling and construction of 73 dairy barns and 22 dairy houses. Reports of the construction of 187 silos were received.

Feeding—The regular program on this phase of dairy work was largely set aside and efforts were directed toward supplying information relative to methods for meeting the shortage of feed. A great deal of attention was given to assisting dairy farmers in planning rations including wheat and other feeds not ordinarily used as feed for dairy cows.

Progress in Milk Production—Placing of the receiving station at Snow Hill upon a Grade A basis was a distinct step in dairy progress. Meetings were held throughout the territory for the purpose of acquainting members with the requirements for Grade A milk and personal visits were made to the farms of all shippers.

ADVANCED REGISTRY WORK

DAIRY HERD improvement and breed promotion work has made substantial progress during the year, in spite of the adverse conditions which this industry has encountered, along with other lines of agriculture. Interest on the part of breeders shows a steady increase, as evidenced by the greater numbers who take advantage of the testing service and the increasing numbers of cows on test. That there is material improvement in the dairy animals being kept for breeding and production purposes is shown by the constant improvement in records.

Advanced Registry Testing—A total of 58 breeders did Advanced Registry work during the year; nine breeders discontinued testing and 14 new ones started. This is an increase of 2.2 percent in the number of breeders and there was an increase of 17.3 percent in the number of cows on test. During the year 6,055 cows were tested and 544 herds were visited by supervisors, which is an average of 505 cows and more than

45 herds per month. There was a decrease of 36 percent in the seven-day testing of Holsteins, which is to be expected, since the seven-day testing is rapidly becoming obsolete.

A general impression of the quality of dairy animals owned by Maryland breeders may be obtained from the following records of tests:

Eighteen Guernsey breeders completed 110 Advanced Registry records, which averaged 10,124.6 lbs. milk and 534.3 lbs. fat for all ages.

Ten Holstein breeders completed 74 semi-official records, which averaged 15,617.4 lbs. milk and 523.5 lbs. fat.

Eleven Jersey breeders completed 62 Register of Merit records, which averaged 8,988 lbs. milk and 480.8 lbs. fat.

Herd Improvement Registry work more than doubled during the year. In the Holstein breed, four herds that were on test in 1929 and also in 1930 showed an increased production of 11 percent in fat and 10.7 percent in milk. It is worthy of note that among the 35 states in which Herd Improvement Registry work is carried on, Maryland stands fifth in number of herds on test.

Breed Promotion Work—Assistance was given breeders of the several breeds of dairy cattle in planning and carrying out events designed to arouse and develop greater interest and effort on the part of dairymen in furthering the welfare of their respective breeds. The principal activity in this line consisted of dairy cattle field days, which included both a showing of cattle and a program focused upon the particular breed for which the event was held. An increase in the number of such events, together with increased attendance and greater numbers of cattle shown, is evidence that they serve a real purpose in the development of the dairy industry in the State.

4-H Club Judging—The record made by Maryland 4-H club boys in judging dairy cattle is one in which all who have had any part in the work may justly take pride. As has been mentioned in the discussion of 4-H club work in this report, a team of Maryland boys won highest honors at the National Dairy Exposition and will represent the United States in international contests. Intensive training was given this team in

preparation for the contest and they were accompanied by the specialist on visits to a number of the best herds of purebred dairy cattle in this State and neighboring states. Special assistance was also given in coaching teams from nine of the counties for the contest at the Timonium Fair.

General Dairy Work—Assistance in selection of herd sires was given a large number of men who were interested in improving their herds and in some cases bulls were actually purchased for them. In one county, a unique contest sponsored by the Kiwanis Club resulted in a material increase in the number of dairymen in the herd improvement association. This contest gave the dairymen an opportunity to compare their guesses with the actual production of their cows. By means of radio talks, articles in the farm and dairy press, meetings, demonstrations, etc., a large percentage of the dairymen were reached with timely information regarding various phases of their business.

MARKETING

THE DEPARTMENT OF MARKETS has continued and expanded all of the principal marketing projects conducted in the past few years and has developed and participated in many new activities. Each year witnesses greater interest on the part of producers in the marketing phase of their business and the demand for work in that line, as well as the opportunity for accomplishing definite results, is correspondingly increased. A large amount of educational work is essential to intelligent action in developing economical systems for marketing most farm products and much of the effort of the Service has been devoted to work of that nature.

Farmers' Marketing Conference—One of the most important events in the marketing field was a four-day Farmers' Marketing Conference, sponsored by the Extension Service, which was held at the University of Maryland in August. The fundamental purpose of this conference was to give producers of various farm products in this State an opportunity to discuss with specialists and authorities on different phases of marketing the problems most vitally affecting development of improved systems for marketing their several commodities. It

was so planned that consideration could be given to coordination of marketing activities in Maryland with the broad plans and policies promulgated by the Federal Farm Board throughout the country.

The forenoon sessions of each day were devoted to discussion of broad phases of marketing, which apply to practically all farm commodities. Speakers at these sessions included the Hon. James G. Stone and Hon. C. S. Wilson, members of the Federal Farm Board, and also a number of specialists from that Board and the U. S. Department of Agriculture, as well as nationally recognized authorities from Maryland and other states.

At the afternoon sessions those in attendance divided themselves into groups according to the specific products in which they were most interested and considered the intimate problems affecting marketing of the respective commodities. Discussions by managers of successful cooperative marketing organizations, leaders of the cooperative marketing movement in Maryland, together with ample opportunity for questions and general discussion, made this portion of the conference intensely practical and beneficial from the standpoint of laying the foundation for constructive work in the State.

Those attending the first Farmers' Marketing Conference had an opportunity to obtain information regarding the economic conditions surrounding specific commodities in which they were especially interested, both from the local and from the national or international standpoints, and also were given first-hand information regarding the plans and policies of the Federal Farm Board and the adaptation of the Agricultural Marketing Act to the marketing of agricultural commodities produced in Maryland.

Shipping-Point Inspection—The importance of standardization and grading as factors in the marketing of farm commodities and the necessity for more general utilization of recognized grades and standards is so evident that work in that line has constantly been expanded. An inspection service which has been maintained by the Extension Service for the last seven years, whereby farm commodities may be inspected at shipping points, has proved the most effective means for bringing about the adoption and use of approved grades and

standards. The type of service rendered varies somewhat to meet the requirements of applicants, but there is a noticeable tendency toward the use of a full-time inspector at individual packing houses, as producers realize more and more the benefit derived from having an impartial analysis of their harvesting and packing operations by a reliable man.

Seven commodities were inspected for 72 applicants in 1930, this being an increase of 8.7 percent over the previous year in number of individual requests for the service. A total of 2,007 cars was inspected, which is less than in 1929, due to the shortage of crops because of adverse season. Growers and shippers of Irish potatoes were again the heaviest users of the service, with 943 cars. Apple growers came next, with 672 cars, which is a large increase over the preceding year. Other products included strawberries, 217 cars; sweet potatoes, 159 cars; peaches, 14 cars; and tomatoes, 2 cars.

Financial arrangements for the service continued as heretofore, the salaries of inspectors, expense of reporting, and Federal and State overhead items of expense being prorated as incurred in each particular assignment. The total cost of inspecting 2,007 cars was $8,439.09, an average of $4.20 per car.

The effectiveness of the service as a means for improving the quality of commodities placed upon the markets is evident from the increasing percentage of the volume inspected that qualifies for the higher grades.

Maple Syrup Inspection—Maryland has the distinction of being the first State to institute Federal-State inspection of maple products. In response to requests from an organization of producers, arrangements were made to provide inspection of their products by licensed officials. No certificates were issued on inspections of that product, but 23 producers availed themselves of the opportunity to place on the market a product which met definite grade requirements. In 1930, only maple syrup was included, but arrangements have been made to extend the service to include maple sugar in the coming year.

Market Reporting—Information regarding market conditions, prices, trends, etc., is essential to enable producers to distribute their products intelligently. To supply producers

and shippers of various commodities with this important information, the Department of Markets has maintained a number of different types of market reports. These include a daily market news service, a daily city market report, and monthly news letters.

Daily Market News Service—In cooperation with the U. S. Bureau of Agricultural Economics, the Virginia State Division of Markets and the Peninsula Produce Exchange, daily market news reports were issued from Pocomoke City, Md. The service began May 13 on strawberries and continued until August 16, when the last report was issued on cantaloupes. During this time 106 daily reports were issued on four products.

Daily City Market Reports—A daily report issued on the Baltimore market, covering fruit, vegetables, live poultry, eggs, and grain, continued as in past years. This work was carried on in cooperation with the U. S. Bureau of Agricultural Economics and the information thus assembled is used on their leased wire service. A mailing list of between 800 and 900 received this report and it was published daily in four papers in Baltimore and one in Richmond, Va. The Western Union Telegraph Company is also furnished daily information on livestock market conditions and, during the season, with daily reports on the Irish potato situation on the Eastern Shore. While the mailing list of this report is comparatively small, the daily press in which it appears reaches practically every rural community in the State, in some cases distribution being made by airplane.

Monthly News Letter—Publication of a Market News Letter each month was continued and it was sent to a mailing list of about 450 persons. The information contained in it pertained to marketing activities of State and nation-wide interest. Requests for the publication showed that it is serving a real need.

Wheat Inspection—Following numerous requests, grain inspection service was established at Easton, Maryland, as a cooperative enterprise between the Maryland State Department of Markets, the Maryland Experiment Station, and the Office of Federal Grain Supervision of the U. S. Department of Agriculture. Samples representing approximately 20,000 bushels

of wheat were inspected and official Federal Inspection certificates were issued. This amount is very much less than would have been subjected to inspection in a more normal season. The low prices for wheat, the high yield, and the low percentage of disease combined to reduce demand for the service. Most of the wheat contained less than 13 percent of moisture and shippers were not afraid of heating in transit.

Seed Certification—In cooperation with other branches of the Extension Service the Seed Certification Board has continued certification of Maryland-grown seeds. In this work, the Department of Markets acts in the capacity of financial agent and procures and distributes such supplies as tags, seals, and other necessary equipment. Crops included in this work the past year were Irish potatoes, tomatoes, and wheat.

Irish Potato Certification—A total of 525 acres of potatoes was inspected for 172 growers and 16,808 bushels of seed qualified for certification. This is a small decrease in number of acres and less than half the quantity in bushels, compared with the preceding year, which is a reflection of the serious effect of the severe drought upon the potato crop. Worcester, Garrett, and Somerset Counties have developed most of the work in this line, although it has extended to a limited extent into Allegany and Wicomico Counties.

Tomato Seed Certification—For a number of years the Extension Service has cooperated with the Tri-State Packers' Association in a project designed to provide a supply of reliable seed of desirable varieties for use of tomato growers in the Tri-State territory. Excellent progress has been made and many canners have expressed the opinion that the quality of raw stock in this territory is greatly improved as a result of the work. In 1930, inspection was given 125 acres of Marglobe tomatoes and certification of the seed was recommended, but, due to the unfavorable season, only 825 pounds of seed were obtained.

Wheat Certification—Thirty-two wheat fields were inspected in 10 counties; three fields were certified and nine fields were listed. This provides 817 bushels of certified seed and 5,735 bushels of listed seed.

Cooperative Marketing—Development of the cooperative marketing movement in Maryland has been a constant activity,

both on the part of the staff of the State Department of Markets and also the commodity specialists and county agents. Assistance has been rendered the organizations now operating successfully in their efforts to improve and extend their services, or in meeting the problems that are continually arising. Attention has also been given to the development of cooperative spirit among those who do not yet have the benefit of an organization in merchandising their products, with a view to extending the movement on a sane and sound basis. Much of the work in this field is of a more or less intangible nature and results are exceedingly difficult to evaluate at any particular time, but to those who are intimately acquainted with the situation it is evident that substantial progress is being made, and the foundation now laid forms a basis for more rapid development in the immediate future.

State Wool Pool—As a result of several years' effort in attempting to develop cooperative marketing of Maryland wool and as an outcome of a number of conferences between agricultural leaders and members of the Federal Farm Board, the Maryland Farm Bureau Wool Pool was successfully organized as a cooperative agency representing the Maryland Wool Growers in the United Wool Growers' Association.

Immediately following completion of this organization, meetings of wool growers in all the principal sheep raising counties of the State were conducted jointly by the Farm Bureau Federation and the Extension Service. Assistance was given in other ways and, as a result of the combined effort, approximately 103,000 pounds of wool from 23 counties was assembled in the warehouse in Baltimore. This wool has not yet been sold and is being held subject to advice of the United Wool Growers' Association.

Tobacco Growers' Association—The State Department of Markets has continued to maintain close contact and cooperation with the Maryland Tobacco Growers' Association, which is one of the most effective and successful organizations dealing with that commodity in this country. Substantial assistance was rendered the tobacco growers in obtaining a loan from the funds of the Federal Farm Board, which helped them in marketing their crop to best advantage.

Dairy Cooperatives—Producers of milk in Maryland are fortunate in having the benefit of the best cooperative organizations in that line to be found anywhere in the country. In seasons such as the extremely adverse season of 1930, the benefits to be derived from organizations of this nature are much more evident than in normal years. Close contact has always existed between the Extension Service and the dairy cooperatives and assistance is rendered when opportunity offers, both by specialists and by county agents in the field. As reported in the activities of animal husbandry Extension work, substantial aid was given the dairy cooperatives in their efforts to assist their members in meeting the shortage of feed during the past year.

Cooperative Grain Marketing—The Extension Service took an active part in the development of plans for marketing Maryland wheat cooperatively. Due to the character of the State geographically and to previous affiliations of wheat growers in different parts of the State, the problem offered many complications and necessitated many conferences between those concerned. The Maryland Agricultural Corporation obtained membership in the National Grain Growers' Association. Material assistance was given local associations in drawing up approved forms of contracts, by explaining the plan of operation contemplated by the movement, and in securing membership. It is believed that the foundation is well laid and by far the most difficult steps have been taken toward a comprehensive plan for marketing Maryland grain cooperatively.

Among the outstanding developments in the cooperative field during the year is the expansion of the Farmers' Cooperative Association of Frederick County, which multiplied its membership by four, approximately doubled it capital stock, and is about to receive a loan from the Farmers' National Grain Cooperation that will enable it to purchase facilities necessary to handle a greatly increased volume of business on a more economical basis.

Marketing Tours—Influenced by the evident value of a similar tour in 1929, the Extension Service cooperated with the Pennsylvania Railroad Company in arranging for a group of leading Maryland farmers to visit some of the principal produce exchanges, wholesale houses, and commission firms in

New York City. The tour was thoroughly organized in advance so that those in the party would have an opportunity to observe under expert guidance just how their farm products are received, graded and handled after they reach the large terminal markets. It was an exceedingly effective demonstration of the importance of placing on the market graded products of high quality.

Baltimore Livestock Show—Although somewhat less effort was devoted to this event than in 1929, when initial plans were made and policies formulated, the Extension Service cooperated with other agencies in promoting the livestock industry through the medium of this exposition. Conditions were less favorable than the year before, but despite the handicap of an adverse season, the exposition was a distinct success and has established itself as an important factor in the development and improvement of the livestock industry of the State. While at present its value is to be found in the improved quality and lowered cost of livestock grown on Maryland farms, together with the benefit of cooperation by diverse agencies in a constructive event of this nature, it is to be hoped that it may pave the way for actual cooperative marketing of livestock.

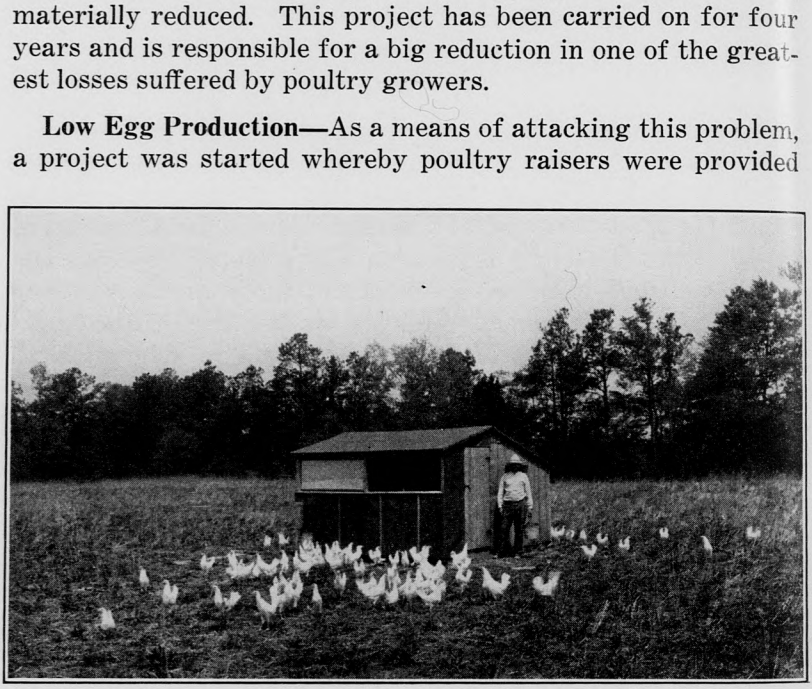
Washington Farmers' Market—Continued assistance was given to the Maryland-Virginia Farmers' Marketing Association in an attempt to secure adequate marketing facilities in the city of Washington. This problem vitally affects the interests of more than 500 Maryland producers and has been up for consideration in one form or another for a number of years. In addition to various meetings and conferences between representative farmers, commission merchants, etc., the farmers were assisted in presenting their case before the House and Senate Committees. It is an important problem to a large number of Maryland growers and is not yet satisfactorily settled.

POULTRY HUSBANDRY

PROBLEMS confronting the poultry industry which were the basis for major activities during the year include, (1) High chick mortality; (2) low annual egg production; (3) breeding stock improvement and hatchery work; (4) high mortality of turkeys; (5) boys' and girls' 4-H club work; and (6) inefficient marketing.

High Mortality of Chicks—This work was conducted in 15 counties and 484 farms and hatcheries were reached, involving approximately 10,000,000 chicks. Complete records were submitted to county agents from 162 farms, having 164,525 chicks. These records show that on farms where the sanitary measures recommended were followed, the percentage of chicks lost was materially reduced. This project has been carried on for four years and is responsible for a big reduction in one of the greatest losses suffered by poultry growers.

Low Egg Production—As a means of attacking this problem, a project was started whereby poultry raisers were provided



Grow Healthy Chicks work in 1930 included 184 farms, on which 173,580 chicks were brooded. For four consecutive years poultrymen who have followed all eight of the recommended practices have lost less than 10 per cent of their chicks to maturity

with special calendars for keeping records of their farm flocks. These calendars covered monthly and yearly egg production, as well as receipts and sales, in a business record form, together with seasonal suggestions on poultry management. This project not only furnishes a means of obtaining extremely valuable information regarding the actual conditions in farm flocks, but also affords opportunity for rendering definite assistance to those farmers who engage in keeping records. An average

of 111 farmers submitted monthly reports the past year and the work will be continued and expanded in future years.

Breeding Stock Improvement and Pullorum Disease—Greater emphasis was placed on poultry certification than in former years. This problem has been handled as a cooperative activity involving the inspection of flocks and banding of birds suitable for breeding and testing a part of them for Pullorum disease (Bacillary White Diarrhea). The agencies cooperating in this work are the Maryland State Poultry Association, Maryland State Bureau of Markets, and the Poultry Department, the Department of Bacteriology, and Extension Service of the University of Maryland.

Ninety-five flocks were included in the work for the year. Of the 26,094 birds in these flocks, 19,813 met the requirements and were approved and banded. Fourteen of these same flocks were given one agglutination test for Pullorum disease and 1,171 of the 6,739 birds tested, or 17.38 percent., reacted to the test. Steady improvement in the health, vigor, and production of the flocks receiving this supervision for the last few years is significant evidence of its value to the poultry industry of the State.

High Mortality of Turkeys—This work emphasized the importance of early hatching, clean brooder houses, clean ground, clean litter, clean feed, clean management, separating the sexes, and keeping records. Ten counties participated in this activity and 23 demonstrations were completed, in which 9,887 birds were raised. Tours and field meetings held on farms cooperating in this and allied work brought out hundreds of interested turkey growers.

Boys' and Girls' 4-H Club Work—A number of 4-H Poultry Club members are carrying adult demonstrations, such as "Grow Healthy Chicks" and "Poultry Calendar" work. Definite poultry club work was carried on in 20 counties, with 699 members enrolled. Of these, 511 completed the work for the year with a total of 24,189 birds involved.

One State Judging Contest was held, with 10 teams competing. One district contest with three counties participating, and six county judging contests were conducted. The Maryland State Judging Team placed fifth in the National contest at Madison Square Garden, New York.

Improved Marketing—Demonstrations in killing, dressing, and grading of turkeys have constituted the principal activity in this phase of the work. Approved methods for packing eggs for market and for hatching were demonstrated to individual farmers. A cockerel sale was held in Caroline County, through their Poultry Association and Farm Bureau, and breeders having cockerels of high quality were able to place 76 of them on the Eastern Shore.

Employment of a poultry marketing specialist on July 1 and a part-time specialist in poultry diseases on January 1, 1930, has materially aided the work during the year. Continuation of this arrangement will greatly enchance the service that can be rendered the poultry industry.

ENTOMOLOGY

WORK in the control of insect pests included a wide range of activities. The dry, hot season resulted in increased damage by some insects and had the opposite effect upon others of the most serious pests. Certain changes in the program of work were necessary from time to time in order to best meet conditions as they developed.

Spray Service—The keen competition which Maryland fruit is encountering on the markets has made it necessary for fruit growers to eliminate every possible waste in production and, also to produce a product of higher quality in order to meet successfully the steady increase in competition. Surveys of orchards have shown that insects are responsible for a large percentage of cull fruits and those of low market value. The spray service carried on in cooperation with the Departments of Plant Pathology and Horticulture, and which is constantly extended and improved, has been of inestimable value to the fruit-growing industry of the State.

Mexican Bean Beetle—This insect has been a menace to several important groups of producers during the last few years. These include growers of beans for canning, truck growers, market gardeners, the large-pole lima bean industry, and the home gardens. At the beginning of the season, a severe outbreak was indicated, but, with the advent of dry, hot weather, the development of all stages was apparently re-

tarded. Eggs, larvae, and pupae were in many instances killed outright. This necessitated curtailment of certain work planned on this insect. Valuable results, however, were obtained from a demonstration of the effectiveness of various dusts and sprays on plots at the Beltsville Farm.

Japanese Beetle—Although the Japanese beetle has not become widely distributed in the State, considerable effort was

A group of florists, nurserymen, fruit growers, and truckers of the State observing the damage done by the Japanese beetle. The picture was taken on a tour made into New Jersey to study the effect of the insect

devoted to dissemination of information regarding the damage done by it, and the most effective methods for preventing its spread. Control operations are carried on under the State Horticultural Department in cooperation with the Federal Department, but educational phases of the work are conducted by the Extension Service. An Information Card on the Japanese beetle was prepared and widely distributed; exhibits showing the use of traps for control of the beetle were prepared for the

Timonium and Harford County Fairs; 50 Riker mounts on the Japanese beetle were furnished to the county agents and others interested throughout the State, and many inquiries were answered regarding beetle control.

Other Insects—The wide diversity of Maryland crops, each of which has its insect enemies, together with the need for work on insects affecting human beings, animals, buildings, etc., resulted in demand for more or less work in numerous lines. Considerable attention was devoted to control of truck-crop insects, to insects attacking potatoes, to pests of flowers, nursery plants, shrubs, etc., to mosquitoes, ants and other pests of the home and of human beings, and to educational campaigns on such insects as the European corn borer, which may become serious pests of Maryland crops.

Late in the season two essentially southern pests required special attention. The corn earworm became prevalent on late lima beans and tomatoes, necessitating control measures, and the fall army worm did serious damage in several sections to lawns and to forage crops planted to replace feed destroyed by the drought.

Bees—Greater service was rendered the bee-keepers of the State than in former years. Efforts toward disease control proved very effective and valuable. Apiaries known to have been infected the previous year were reinspected and all requests for inspection were complied with. An effort was made to clean up the counties in which the highest percentage of infection existed. In commercial apiaries where infection occurred in a high percentage of colonies, treatment was permitted (not advised), whereas in cases involving the infection of only several colonies in an apiary, burning of all infected material was ordered.

Educational talks on various phases of bee-keeping were made at a number of meetings and an effort was made to reach the bee-keepers not able to attend the Baltimore meetings by holding county meetings. In cooperation with the Maryland State Bee-keepers' Association, a bee and honey exhibit was set up at the Timonium Fair, which attracted considerable favorable comment and resulted in many questions regarding bees and honey.

PLANT PATHOLOGY

WORK in plant pathology covers a wide variety of activities, all designed to reduce the losses in yield and quality of crops due to plant diseases. It includes assistance in seed selection, seed treatment, soil disinfection, spraying, dusting, production, maintenance and marketing of seed stocks of superior quality, and other control measures. Efforts are also being made to improve upon methods used in control of crop diseases by introducing new fungicides and seed disinfectants and otherwise.

Barley Diseases—Covered smut causes an annual loss of from 10 to 15 percent of this crop in Maryland. Organic mercury compounds have been found to control this disease when dusted on the seed. Demonstrations with these dusts gave very promising results in 1929 and this work was continued in 1930, together with additional demonstrations with formaldehyde dust.

Cantaloupe and Cucumber Diseases—Five demonstrations on the control of cucumber mosaic were conducted and the disease was successfully controlled wherever the recommended practices were followed. Spread of blight and anthracnose diseases of cucumbers and cantaloupes was greatly checked by the drought, but, in spite of this, growers who sprayed and dusted their fields were well satisfied with results and reported saving of from $250 to $500.

Orchard Diseases—Lectures were given on the control of fruit diseases at meetings held in the most important fruit growing regions. A study was made of the fungus which produces scab, in order to determine when the disease was likely to appear in the spring. Spray cards were sent out, notifying fruit growers when it was time to spray, what they should spray for, and what material to use. A survey of 11 orchards showed that there was very little loss from diseases when orchards were sprayed with suitable material at the proper time.

Sweet Potato Diseases—In addition to addresses emphasizing such control measures as use of certified seed, seed selec-

tion, seed treatment, seed bed sanitation, crop rotation, and proper storage methods, work on seed certification was continued. Both field and bin inspection service was furnished to growers requesting it.

Tobacco Diseases—Mosaic and wildfire are the most destructive diseases of the Maryland tobacco crop. Apparently the exceptionally dry season checked the spread of wildfire, but mosaic was about as prevalent as usual. A survey sponsored by the Bureau of Plant Industry was made of tobacco seed beds and fields. Wildfire was found in 26 percent of the seed beds, in spite of the dry spring, which indicates that spraying the seed beds should be adopted as a regular practice by all tobacco growers. During the month of August, a survey was made of 36 tobacco fields. Losses from drought were very heavy and mosaic was found to be the most prevalent disease. There was an average of 10 percent infected plants, or an average loss of 3.2 per cent of the crop from this disease.

White Potato Diseases—Work on this project has continued through a number of years and has proved to be one of the most outstanding activities in plant disease control. Continuation of profitable potato production will be impossible in Maryland unless growers are assured a reliable and adequate supply of vigorous potato seed, reasonably free from mixtures and diseases. The Extension Service is assisting seed potato growers to produce high-quality certified seed, both for home consumption and for sale outside the State, and is also assisting growers to obtain high-quality certified seed.

The most striking result of work on potatoes has been the improvement in quality of home-grown, second-crop Irish Cobbler potato seed stock. In 1929, 42 percent of the seed growers, who planted 35 percent of the acreage inspected for certification, were disqualified. In 1930, only 9 percent of the growers, who planted 4 percent of the acreage inspected, were disqualified. This remarkable achievement has resulted from an intensive campaign conducted by the Extension Service during the past eight years. It is conservatively estimated that the annual saving to potato growers resulting from the use of good seed and practice of other disease control measures amounts to approximately 600,000 bushels.

Boys' Club Work—Boys' 4-H certified seed potato clubs were conducted in cooperation with the State boys' club agent and the county agents, with teachers in vocational agriculture acting as local leaders. Part of the seed was furnished the boys by the Baltimore and Ohio Railroad and local Rotary Club. Seed used by the boys was so much better than the average seed used in the county that greatly increased yields of superior quality potatoes were obtained. This resulted in the sale of about 1,000 bushels of certified seed in the county, which were planted and gave excellent results.

Other Crops—Considerable work was done to determine the prevalence and assist in the control of diseases affecting corn, wheat, cabbage, and a large number of other crops. Demonstrations were held in regions where specific diseases offered special problems and information regarding disease control methods was widely disseminated.

FORESTRY

THE Forestry Project during 1930 included the following five major lines of work:

1. Reforestation of idle or abandoned farm land.
2. Woodland thinnings and improvement cuttings in young or immature woodlands.
3. Marketing mature timber.
4. Windbreak planting.
5. Maple syrup production and marketing.

Public interest in these efforts has been greater than in any previous year and, although effects of the severe drought are especially noticeable in forest and windbreak plantings, the vital importance of this work is more generally recognized, and it should continue to develop in spite of this year's losses. About two-thirds of the forestry specialist's time was devoted to the first two lines of work, and the remainder was given to the other three. This represents fairly accurately the relative importance of these sub-projects with reference to the Extension forestry needs of the State.

Forest Planting—Reforestation of waste or low producing land continues to be of importance both from a National and State viewpoint. This has been emphasized frequently in

statements issued by the Federal Farm Board, and by agricultural economists in various states. During the past year, 27 forest planting demonstrations were conducted in nine counties, in cooperation with county agents, and a total of 118,220 trees was planted in these demonstrations. Two tours were conducted in the interest of forest planting—one to plantations in Wicomico and Worcester Counties, sponsored by the Forestry Councils of these two counties, and one to the Loch Raven plantations in Baltimore County, sponsored by the Harford County Forestry Council. Plantations of other than loblolly pine, set out during 1930, suffered heavily from the drought, while the average survival of loblolly pine plantations is only slightly below that of average years.

Woodland Thinnings and Improvement Cuttings—Agreements were entered into with 13 woodland owners in seven counties, establishing permanent result demonstrations showing proper fuelwood cuttings in young, densely crowded thickets. The Extension specialist blazed all trees for removal on a measured area for each demonstration and, after the blazed trees are removed, these areas are to be used for future field meetings and tours.

Marketing Mature Timber—Added stimulus was given this sub-project by the stringent financial conditions of many farmers from the drought, and their desire to realize immediate cash from marketable woodland resources. Numerous owners were advised on most profitable markets and were encouraged to avail themselves of the woodland measuring and marketing service of the State Forestry Department. Explanation of this service and its benefits to forest owners was the basis of a tour and demonstration in Howard County, which was given considerable publicity throughout the State.

Windbreak Plantings—An intensive county-wide windbreak planting campaign was conducted in Frederick County, with the aid of the county agent, and, as a result, five demonstrations were established. Unfortunately, Frederick County suffered very heavily from the drought and many of the trees set out in these demonstrations were lost. However, the campaign developed an even greater interest in this work than was anticipated and additional demonstrations in the future are assured.

Maple Syrup Production and Marketing—Owners of maple groves in Garrett County organized a year ago the Garrett County Maple Products Association, for the purpose of more widely advertising this Maryland product and sponsoring Federal-State inspection of their syrup, thus providing the basis for a standard product. As a result, more than 2,000 gallons were inspected under the supervision of the State Department of Markets, and Maryland gained the distinction of being the first State to apply Federal-State inspection to its maple products. The two highest grades were permitted by the Association to enter the market under its trade name, "Crest O' The Highlands." Plans have been made to continue inspection of maple syrup and it is anticipated that it will be extended to include maple sugar.

Miscellaneous—Other activities of the forestry specialist include: Eighteen lectures before audiences totalling 824 persons; preparation of a 75-page bulletin on "Sweet Gum in Maryland"; supervision of a three-mile roadside planting of trees in Montgomery County; forestry demonstrations to 4-H club boys in camp in Harford and Garrett Counties and at the State club camp at College Park; and preparation of a four-year 4-H forestry club project, which has been submitted to county agents as a basis for forestry club work in the counties.

CANNING CROPS

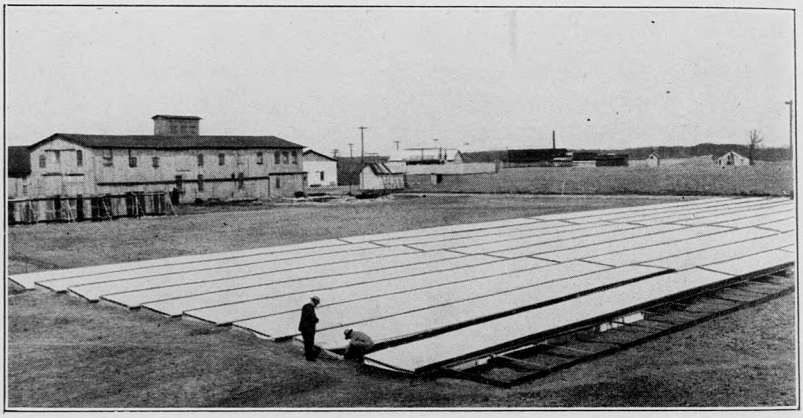
THE EXTENSION SERVICE had the largest program of work planned and in operation with canning crops that has yet been attempted, but results were very disappointing and had little demonstration value because of the near failure of these crops due to the severe drought. Acreages of nearly all canning crops were materially increased in 1930, as indicated by the following table taken from reports of the Bureau of Economics of the U. S. Department of Agriculture. The great reduction in yield is also shown by the table.

Crop	*Acreage*		*Yield per Acre*	
	1929	1930	1929	1930
Snap beans	8,400	9,740	1.7 tons	.8 tons
Peas	12,400	12,000	2,350 lbs.	400 lbs.
Sweet corn	44,000	46,200	1.4 tons	.4 tons
Tomatoes	27,500	28,880	5.1 tons	2.7 tons

Since 1927 special attention has been given to the growing of earlier tomato plants for the general cannery crop, as both

experiments and field tests have clearly demonstrated the value of the practice, and distinct progress has been made in this project. It is estimated that in 1927 approximately 15,000 plants were produced in the types of plant beds recommended, whereas the number of plants produced in this manner in 1930 is conservatively estimated at 20,000,000. This latter figure is about 22 percent of the acreage in Maryland devoted to tomatoes for canning.

Other efforts toward improvement of the quality of tomatoes grown for canning have included the development and location of desirable sources of seed, the testing and introduction of



The use of cloth-covered frames for growing early tomato plants has been demonstrated for a number of years and a large percentage of the plants are now grown by that method

improved varieties and strains, demonstrations with fertilizers, and a number of more or less minor activities. Progress in the seed-saving work conducted in cooperation with the Tri-State Packers' Association was greatly curtailed by the reduced yield, but a limited amount of pure seed stock was obtained.

The Maryland Ten-Ton Tomato Club started out with an enrollment of 252 growers, representing 13 counties and having a combined acreage of 1,731 acres. The fact that only three entrants were able to make the ten-ton yield is evidence of the adversity of the season.

Definite steps were taken toward the development of a more equitable system for both buyer and seller of raw products in the form of tomatoes than the system now in vogue, but the shortness of the crop necessitated postponement of operations in this line, other than consideration and discussion of the proposition at a number of meetings and conferences.

A test started in 1928 to determine the feasibility of producing sweet-corn seed in this State for commercial distribution was continued, but the yield was severely cut and, after careful examination, it was considered advisable to abandon all but 25 acres of the fields planted for this purpose. In view of the experience obtained, it is felt that the project could be handled to much better advantage as an experiment station problem than as a field project.

One of the principal activities in the improvement of peas for canning was the multiplying of the wilt-resistant strain developed under the supervision of Professor C. E. Temple. Arrangements were made by Professor Temple with a Western seed grower to take the bulk of the available supply of seed for multiplication in the regular pea seed growing areas. The seed was planted the past season and an appreciable supply is now available for future use.

Work designed to improve the production of snap beans and lima beans for canning has centered largely upon encouraging growers to use seed from the semi-arid regions of the West in order to avoid damage by anthracnose, and the development of better practices in the use of fertilizers. Outstanding progress has been made in both of these lines and it is estimated that 95 percent of the snap bean acreage is planted with anthracnose-free seed.

Diseases of Canning Crops—Extension work on the control of diseases of canning crops is conducted in close cooperation with other activities designed to improve these crops. Many of the projects are combined in such a way as to serve as demonstrations in both horticultural practices and disease control.

Snap Beans—Efforts to reduce the loss caused by anthracnose disease have met with success. Tests of seed from different western sources have been maintained each year and

growers have been aided in obtaining seed that was known to be free from disease. An effort has also been made to determine if the disease overwinters in the soil under Maryland conditions. Indications are that it does and that beans should be rotated with other crops for at least three years.

Lima Beans—The principal difficulty with lima beans during the last two years has been very poor germination. Assistance was rendered by way of germination tests and advice relative to the rate of planting for different lots of seed.

Peas—As an effective means for controlling the three most important diseases attacking the pea crop, a four-year rotation has been advocated, the other crops being those which are not susceptible to any of the diseases. Work with the wilt-resistant strain has already been mentioned.

Sweet Corn—The most important work conducted with this crop was the trial of hybrid strains and the cooperative work with the Tri-State Packers' Association in the saving of home-grown seed.

Tomatoes—All of the stock seed improvement work is carried out by the Extension Service and considerable assistance is given in the field-growing and seed-saving operations. In connection with this work, 125 acres of Marglobes were inspected and recommended for certification. Due to the unfavorable season, however, only 825 pounds will be eligible for certification. Tests were conducted in an effort to find some treatment that might be given southern-grown tomato plants after pulling, which would reduce the spread of diseases in handling and shipment, but which would not injure the plants. Although the tests are not complete, some of the materials used showed promise of satisfactory results.

TOBACCO

IT IS encouraging to note at the close of 1930 that the Maryland tobacco crop has attained even higher standards. A compilation of reports from farmers shows that 72 percent of a crop was made and that it has a quality of 66 percent compared with a normal crop.

Major features of the program of work attempted during the year included:

1. Efforts to encourage the adoption of suitable varieties.
2. Demonstrations of better seed-bed practices.
3. Demonstrations of soil improvement methods.
4. Development of better methods of field culture.
5. Recommendations for more modern housing facilities.
6. Recommendations for cooperative marketing.

In carrying out this program, the county agents in the five tobacco growing counties were important factors. Officials in charge of the tobacco experiment station at Upper Marlboro also gave splendid aid and cooperation. This station is jointly operated by the U. S. Department of Agriculture and the Maryland Experiment Station.

Seed Bed Improvement—Thousands of growers are giving their seed beds better protection as a result of demonstrations emphasizing the value of sanitation. These included sterilization of the soil with steam or by burning, protection of the plant beds against the ravages of insects and disease by the use of boards, good covers, and spraying.

Soil Improvement—Between 200 and 300 demonstrations were carried out to show the value of balanced fertilizers and the use of legume cover crops for soil improvement. Fertilizer demonstrations did not show to good advantage this season, although most growers agreed that increased yields more than paid for the cost. Hundreds of growers in the tobacco belt made good crops by plowing under cover crops, whereas those without cover crops lost severely.

Field Culture and Housing—As a result of illustrated lectures and exhibits at fairs and other meetings, a great many farmers are buying improved machinery for cultivating. At least nine new barns were erected and more than 20 barns were equipped with stripping rooms as a result of plans furnished by the Extension Service.

Other Activities—Tours were conducted from each of the counties to the tobacco experiment station at Upper Marlboro, and growers were given an opportunity to see the latest developments in tobacco production.

Work of 4-H tobacco clubs was expanded in many ways. The 4-H tobacco judging contest at the Southern Maryland Fair had 37 contestants.

Organization of Tobacco Locals and County Tobacco Boards in two counties is a long step forward in Extension activities. Officials of the Cooperative state that, as a result of meetings of these locals, sales of fertilizer to members were increased 22 percent and that they received 7 percent more of the Maryland crop.

HOG CHOLERA CONTROL

THE AUTHORITIES in charge of the hog cholera work report that Maryland, in 1930, experienced the most satisfactory year, so far as hog cholera is concerned, since control work was started in 1917. Only 219 cases were reported, compared with 334 cases in 1929 and an 11-year average of 565. Fifty-five, or approximately 25 percent of the outbreaks, were in garbage feeding plants and 72 percent of all hogs involved were in such places.

One hundred thirty-three of the outbreaks were classed as backyard; that is, a few hogs kept in small pens under restricted conditions. Eighty-six occurred on farms where hogs were bred and raised. However, garbage feeding plants were maintained on 30 of these farms. There were, therefore, only 56 farms on which some care is used to observe sanitary conditions, that reported outbreaks of hog cholera. That is only one farm in each 465 farms in Maryland on which hogs are bred and raised. For the last eight years, outbreaks on such farms have averaged less than .7 of 1 percent.

One hundred eighty-six, or 90 percent of the 211 primary outbreaks, were due to feeding infested pork in garbage, table scraps, or kitchen refuse, and 23 were due to the purchase of new stock.

The estimated loss in all outbreaks reported is 2,028 hogs. Losses in backyard outbreaks were 324 and on farms, not including garbage feeding plants, were 94. Losses in garbage feding plants were estimated at 1,210 animals, or 60 percent of the total loss from all outbreaks.

FARM ENGINEERING

EXTENSION work in agricultural engineering was handled by specialists devoting part time to the project. Four lines of work were carried on: (1) Farm structures; (2) drainage; (3) water systems; and (4) rural electrification.

Each county agent was supplied with a set of building plans for 54 different farm structures. Copies of any of these plans are distributed free to farmers who request them. The dairy barn plans in these sets have been approved by the Boards of Health of Baltimore and Washington. Despite unfavorable conditions caused by the drought, 225 blue-print plans were sent to Maryland farmers during the last nine months. A very successful Rural Builders' School was held in Queen Anne's County, and special efforts are being made to interest rural builders and contractors in this plan service.

Nine drainage systems were laid out, resulting in the restoration to productivity of 100 acres of land. Twenty-five visits were made to farms for the purpose of advising with regard to most practical types of water supply and sewage disposal systems.

Two county fair exhibits on the subject of Rural Electrification attracted wide interest. Use of electricity on Maryland farms is increasing at a rapid rate and information as to its practical and economical applications on the farm and in the home should be made widely available. In this program, advantage will be taken of the valuable studies and demonstrations being made on the farms of the National Rural Electric Project in Montgomery County.

Other activities included visits to 75 farms to advise on specific problems, attendance at 4-H club meetings, radio talks, and many inquiries by letter.

GENERAL EDUCATION EXTENSION

AS HERETOFORE, we have endeavored to meet the needs in the State in General Educational Extension. Specialists of the Institution and Service have delivered a number of addresses on subjects not only closely allied with agriculture and home economics, but also upon general popular subjects.

Several speakers from the Department in Washington, as well as elsewhere, have assisted our local representatives. The specialist in Extension Education is finding an increasing demand for his service.

Motion Pictures—Films have been distributed by the Service as heretofore. A large number have been secured from the U. S. Department of Agriculture. The question now is presented as to the use of sound films and this presents quite a question to the Department as well as this Service in the utilization of films that are up to date. It is hoped that finances will permit us to meet the demands in this field with appropriate pictures.

Radio Activities—As reported under the Project on Publications, the Service has been extending its radio work as far as funds would permit. It is hoped that our radio audience appreciated our daily and weekly service being rendered over three commercial stations. It is hoped also that more definite arrangements can be made for extending our radio service in this State.

Miscellaneous—There continues a demand for correspondence courses, likewise desire for movable schools and meetings of similar nature in various sections of the State. Conditions are changing and, with the farm organizations meeting quite frequently in the counties, there is less demand for definite school work.

ADULT EDUCATION

THE CONCEPTION of education as a process that continues through life brings into consideration the great question of adult education along with the problem of constantly improving the facilities offered to youth as preliminary training for the responsibilities of later life. Great progress in adult education has been made the last few years. At no time in the history of our civilization have adult persons had greater opportunities to avail themselves of further education than they have today. On the other hand, what has been done is a mere beginning and the facilities now available are extremely meager in proportion to the need and desire.

Naturally, as Director of Extension, I have been deeply interested in developing adult education in agriculture and home

economics. Results which have been achieved in these lines are most gratifying. Demand for such work has always increased more rapidly than facilities can be provided for meeting it. Rural people have grasped the opportunities offered them most readily and the desire is greater than there are facilities to satisfy. I am convinced, however, that there is a great field which is virtually untouched. It is my feeling that the Land Grant colleges owe a great duty to the citizens of the State and country by offering similar education to adults in other vocations, and also that the opportunity offered rural people should be extended to include education in cultural subjects, such as the arts and general sciences.

The progress and welfare of a democracy depend upon the enlightenment and cooperative spirit of its people. With this thought in mind, together with the modern conception of education, governments, both National and State, may well devote public funds to providing adequate educational facilities to people of all ages and vocations.

I trust that facilities will be afforded this Service and this Institution to render a substantial contribution in the general adult educational field for the advantage of the large percentage of our population who desire help in many fields.

MISCELLANEOUS WORK

THE SERVICE wishes to acknowledge the miscellaneous Extension work conducted by specialists connected with other divisions of the Institution. These include Prof. J. E. Metzger, Dr. W. B. Kemp, Dr. E. M. Pickens, Mr. Geary Eppley, Dr. W. T. L. Taliaferro, and others. The Service is especially indebted to Dr. H. J. Patterson, Director of the Experiment Station and Dean of the College of Agriculture, for his cordial support and helpful suggestions at all times.

Letters of Inquiry

We continue to receive a large number of letters from persons all over the United States desiring to locate in Maryland. All letters of this character are answered, giving the desired information relating to the agricultural possibilities of the State, the price of farm land and many other questions asked.

This correspondence is so extended that steps are being taken to prepare a bulletin dealing with the agricultural resources and industrial development of the State. There is urgent need for such a publication.

Survey and Development Commission

The Director of Extension serves as a member of the Survey and Development Commission authorized by the Legislature of 1929. This commission works closely with the Baltimore Association of Commerce and various State departments and is endeavoring to conduct a comprehensive survey of the State's resources with a view to their further development.

Study of Cooperatives in the State

In an endeavor to fully cooperate with the Farm Board in its endeavor to survey the Eastern territory under the direction of Commissioner Wilson a conference was called last year looking toward making a study of the existing cooperatives in the Eastern States territory. A special committee was set up with Director C. E. Ladd, of New York, as chairman and Director T. B. Symons as secretary. This committtee, after surveying the situation in conference with associates, presented a request to the Farm Board providing for such a study. Such request was granted and ample funds provided. Representatives from each state were appointed by the Farm Board. Under the direction of Dr. W. I. Myers a careful survey of cooperatives in the Eastern territory is being made. Mr. Paul Nystrom represented Maryland and a thorough survey of Maryland cooperatives with detailed information concerning their present set-up, difficulties, and need is being compiled. It is believed that this study will be the means of directing efforts in economic Extension, which will be most helpful for future development of these organizations in our State.

State Horticultural Department

The administration of the State Horticultural Department has for many years been under the direction of the Extension Service. This has proved mutually helpful in carrying on the work in the State. It is sometimes difficult to segregate regu-

latory features in connection with the control of insect pests and plant diseases from the giving of information for their control. Therefore, the specialists in these fields serve also as officers of the State Horticultural Department. Many problems in insect control, such as the Japanese beetle and other similar pests and diseases, have been presented in a special report on these activities in the biennial report submitted to the President.

Exhibits

Numerous requests have been made upon the Service for exhibits at various county and community fairs and it is embarrassing to attempt to meet these increasing needs without available funds. A request has been made for a number of years for an exhibit fund with a superintendent in charge, but as yet this has not been provided. Attractive exhibits have been made at the Timonium Fair and other fairs in the State.

During the past year the Service was requested to cooperate with the florists of Baltimore in conducting a floral exhibit. In cooperation with the State Department of Forestry an attractive exhibit was erected which was interesting and valuable in conveying information to visitors at the show. It requires considerable effort on the part of our specialists to provide ways and means to meet these needs, particularly when we are so limited in finances for this particular work.

CONCLUSION

THE ABNORMAL conditions existing in the State as a result of the drought have presented many problems to the Extension force during the past year. It is likewise apparent that with the tremendous demands and changes brought about by the drought many projects and plans inaugurated early in the year were forced to be abandoned. The efforts of our agents were forced in the direction of rendering relief of one kind or another. The question of issuing certificates for the purchase of hay was one form of service that took a great deal of time. The agents will be engaged during this winter and spring in assisting the farmers in securing loans to rehabilitate themselves. On the whole, it may be said that perhaps

never before has the importance and wisdom of having trained men to render assistance in the field been so justified as in this emergency.

While the outlook for Extension Work during next year will be guided by developments in the weather, no state presents greater opportunities and possibilities than Maryland. The perplexities facing the agricultural industry should be more easily solved in Maryland by virtue of our diversification of crops and nearness to markets than in many other sections of the country.

We are fortunate in this State to have harmonious relations existing between all agencies and to have all of our agricultural agencies centered under the control of the State Board of Agriculture. We have noted innumerable cases during the past year of the administrative efficiency of such a set-up.

The Service is indebted for the cordial cooperation of officials in charge of Extension Work in the U. S. Department of Agriculture. We are particularly pleased to record the assistance rendered by and sympathetic support of our State farm organizations. It is the unalterable policy of the Service to render every possible assistance to these agencies and to the development of further cooperative enterprises which will aid in solving our farmers' problems.

Finally, I desire to express my deep appreciation to all members of the staff and office force for their sympathetic cooperation and assistance in directing the work of the Service and to record the grateful appreciation of the Service and the writer to President R. A. Pearson for his sympathetic interest and cordial assistance in promoting Extension activities in the State.

FINANCIAL REPORT FOR THE FISCAL YEAR ENDING JUNE 30, 1930

	Smith-Lever Funds		Capper-Ketcham Funds		State Offset to Clarke-McNary Forestry Extension Funds
	Federal	State	Federal	State	
DR.					
Unexpended balance from 1928-1929	---	---	---	---	---
To receipts from the Treasurer of the United States and from State sources as per appropriations for fiscal year ended June 30, 1930	$74,068.49	$64,068.49	$25,627.02	$5,627.02	$1,914.00
CR.					
By personal services	$65,806.45	$51,636.10	$25,177.77	$5,627.02	$1,330.09
Supplies and materials	434.10	1,623.65	---	---	19.44
Communication service	137.14	654.46	1.42	---	---
Travel expenses	6,800.06	7,330.70	447.83	---	516.06
Transportation of things (service)	21.09	956.68	---	---	4.26
Printing, binding, and cuts for publications	785.55	1,396.42	---	---	44.15
Furnishing of heat, light, power, water, and electricity (service)	---	---	---	---	---
Equipment	62.75	373.98	---	---	---
Miscellaneous	21.35	96.50	---	---	---
Total	$74,068.49	$64,068.49	$25,627.02	$5,627.02	$1,914.00

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING SOURCES OF FUNDS USED FOR EXTENSION WORK, FISCAL YEAR ENDING JUNE 30, 1930.

Projects	Total	Smith-Lever Funds		Capper-Ketcham Funds		Funds Not Used as Offset		
		Federal	State	Federal	State	College and State	County	Other
Administration	$16,883.74	$4,605.90	$6,598.69	--------	--------	$4,697.62	--------	$981.53
Publications	9,240.84	3,517.79	2,898.97	--------	--------	2,824.08	--------	--------
County Agent Work	127,642.47	36,692.81	23,966.30	$15,664.26	--------	13,072.05	$38,221.00	26.05
Home Demonstration work	94,978.55	12,817.79	6,813.34	9,940.71	$5,627.02	26,536.86	28,491.00	4,751.83
Boys' Club Work	8,324.42	1,501.54	3,163.10	22.05	--------	187.45	--------	3,450.28
Agronomy	5,463.32	1,638.09	3,363.76	--------	--------	460.57	--------	.90
Animal Industry	4,744.28	1,455.59	3,065.29	--------	--------	193.40	--------	30.00
Horticulture	7,443.10	3,647.87	3,369.88	--------	--------	425.35	--------	--------
Dairying	9,342.24	2,331.90	3,154.30	--------	--------	2,860.46	--------	995.58
Rural Organization and Marketing	13,051.93	625.00	1,000.00	--------	--------	11,385.12	--------	41.81
Poultry	6,813.54	1,118.40	3,072.68	--------	--------	2,622.46	--------	--------
Entomology	20,244.84	647.42	23.23	--------	--------	19,574.19	--------	--------
Pathology	5,046.60	472.27	59.29	--------	--------	4,509.13	--------	5.91
General Educational Extension	4,235.96	--------	--------	--------	--------	4,123.15	--------	112.81
Canning Crops	10,057.31	139.03	296.80	--------	--------	9,621.48	--------	--------
Farm Forestry	1,995.00	--------	--------	--------	--------	1,995.00	--------	--------
Nutrition	3,062.05	1,282.78	1,635.05	--------	--------	144.22	--------	--------
Clothing	3,455.46	1,574.31	1,587.81	--------	--------	293.34	--------	--------
Total Expend's	$352,025.65	$74,068.49	$64,068.49	$25,627.02	$5,627.02	$105,525.93	$66,712.00	$10,396.70

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK, FISCAL YEAR ENDING JUNE 30, 1930

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK, FISCAL YEAR ENDING JUNE 30, 1930

	Personal Service	Supplies and Materials	Communication Service	Traveling Expenses	Transportation of Things	Printing, Binding and Cuts for Publications	Furnishing of Heat, Light, Power and Electricity	Equipment	Miscellaneous	Total
Administration	$8,835.34	$2,839.61	$981.72	$30.00	$909.12		$2,300.00	$662.76	$325.19	$16.883.74
Publications	5,020.82	16.67	27.78	149.80	46.42	$3,934.55		27.18	17.62	9,240.84
County Agent Work	99,113.26	3,490.75	8.45	24,905.66	12.77			41.58	70.00	127,642.47
Home Demonstration Work	70,696.15	3,669.83	28.81	20,227.51	54.94	6.00		53.30	242.01	94,978.55
Boys' Club Work	3,990.97	275.80	13.95	4,008.26	4.94			11.00	19.50	8,324.42
Agronomy	3,800.02	88.58	16.05	1,525.40	13.17			20.10		5,463.32
Animal Industry	3,550.00	4.22	1.65	1,179.41				9.00		4,744.28
Horticulture	6,350.18	2.29	2.15	1,080.82	.18			5.23	2.25	7,443.10
Dairying	7,140.40	21.85	23.52	2,155.31	1.16					9,342.24
Rural Organization and Marketing	9,427.38	524.65	708.67	2,013.18	23.33			259.12	95.60	13,051.93
Poultry	4,916.61	31.88	1.35	1,858.68	4.27				.75	6,813.54
Entomology	16,279.80	215.55	259.13	3,044.56	48.78		5.00	121.11	270.91	20,244.84
Pathology	3,780.00	87.66	3.00	1,134.81	33.12			2.10	5.91	5,046.60
General Educational Extension	1,975.01	306.66		847.96	16.58			2.00	1,087.75	4,235.96
Canning Crops	7,234.37	206.15	257.76	2,348.41	2.62			8.00		10,057.31
Farm Forestry	1,411.09	19.44		516.06	4.26	44.15				1,995.00
Nutrition	2,675.00	.80		352.78	2.92			30.55		3,062.05
Clothing	2,812.78	49.43	1.80	584.02	3.68			3.75		3,455.46
Total Expenditures	$259,009.18	$11,851.82	$2,335.79	$67,962.63	$1,182.26	$3,984.70	$2,305.00	$1,256.78	$2,137.49	$352,025.65

COUNTY DEMONSTRATION AGENTS—(Continued)

County	Name	Headquarters
Montgomery	* A. A. Ady (Assistant)	Rockville
Prince George's	* W. B. Posey	Upper Marlboro
Prince George's	* Perry E. Clark (Assistant)	Upper Marlboro
Queen Anne's	* E. W. Grubb	Centreville
St. Mary's	* G. F. Wathen	Loveville
Somerset	* C. Z. Keller	Princess Anne
Talbot	* R. S. Brown	Easton
Washington	* M. D. Moore	Hagerstown
Wicomico	* J. P. Brown	Salisbury
Worcester	* R. T. Grant	Snow Hill

LOCAL AGENTS

* J. F. Armstrong (col.)	Southern Maryland	Seat Pleasant
* L. H. Martin (col.)	Eastern Shore	Princess Anne

* In cooperation with the U. S. Department of Agriculture.
† Devoting part time to Extension Work.

COUNTY HOME DEMONSTRATION AGENTS

County	Name	Headquarters
Allegany	* Maude A. Bean	Cumberland
Anne Arundel	* Mrs. Georgiana Linthicum	Annapolis
Baltimore	*Anna Trentham	Towson
Calvert	*Alverta Miller	Prince Frederick
Caroline	* Bessie M. Spafford	Denton
Carroll	* Agnes Slindee	Westminster
Cecil	* Priscilla B. Pancoast	Elkton
Charles	* Mary Graham	La Plata
Dorchester	* Hattie E. Brooks	Cambridge
Frederick	* Helen E. Pearson	Frederick
Frederick	* Ernestine Chubb (Assistant)	Frederick
Garrett	* Elsie M. Benthien	Oakland
Harford	* Catharine Maurice	Bel Air
Howard	* Myrne Hendry	Ellicott City
Kent	* Helen N. Schellinger	Chestertown
Montgomery	* Blanche A. Corwin	Rockville
Prince George's	* Ethel M. Regan	Hyattsville
Queen Anne's		Centreville
St. Mary's	* Ethel Joy	Leonardtown
Somerset		Princess Anne
Talbot	* Mrs. Olive K. Walls	Easton
Washington	* Ardath Martin	Hagerstown
Wicomico	* Marian Swanson	Salisbury
Worcester	* Lucy J. Walter	Snow Hill

LOCAL HOME DEMONSTRATION AGENTS

Charles and Prince George's	Mrs. Arminta W. Dixon	Washington, D. C.
Somerset	Mrs. Justine Clark	Princess Anne

GARDEN SPECIALIST

Carrollton and Lafayette Aves	Mrs. Adelaide Derringer	Baltimore

* In cooperation with the U. S. Department of Agriculture.